

**Assessing Professional Rapport: Developing and Validating a New Measure of Rapport
(Rapport-Pro) for use in Investigative Information-Gathering Contexts.**

A thesis submitted for the degree of Doctor of Philosophy at Goldsmiths, University of
London

by

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Statement of Originality

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, this has been indicated within the thesis.

Celine Brouillard

Ethics Statement

Ethical approval for the research presented within this thesis was granted by the Research Ethics Committee at Goldsmiths, University of London. Ethics documentation has been provided within the appendices.

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"Unity Makes Strength", Belgium's national motto captures best the collective effort of those involved in this journey, each playing significant roles:

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Abstract

Building rapport is consistently recognised as a crucial component for establishing cooperation and increasing information disclosure. However, rapport is a subjective concept, often associated with various interpretations regarding its theoretical and practical applications. A large body of research has promoted rapport by demonstrating effective behaviours or strategies associated with it which can enhance the quality and quantity of interactions between interviewees and interviewers. Despite the acknowledged importance of rapport across international and national guidelines that incorporate evidence-based strategies, there is still no consensus on what rapport is, how it should be evaluated, and how professionals should implement it in practice. Therefore, this lack of agreement obstructs the development of appropriate evidence-based training and guidelines, perpetuating inconsistencies in how rapport is perceived.

This thesis examines how rapport is evaluated across professional information-gathering contexts and aims to address current inconsistencies in its conceptualisation within these settings. Using a mixed and systematic approach informed by recommended practices in scale development and validation, this thesis develops a new measure of rapport—the Rapport-Pro – synthesising current research and theories of rapport. The Rapport-Pro consists of five components, each contributing to building rapport: (i) *mutual connection*, (ii) *paying attention*, (iii) *building a relationship*, (iv) *being approachable*, and (v) *being professional*. The psychometric properties of the Rapport-Pro were assessed, exploring the measure's quality in terms of factorial structure, validity, and reliability. The measure was found to be a reliable and validated assessment of rapport, showing signs of face, content, concurrent, factorial, and construct validity. Further, this thesis was the first to explore the underlying dynamics of each component and their interactions in building rapport, offering new insights into our understanding of rapport.

The Rapport-Pro has significant implications for theory, practice, and future research. These findings provide an up-to-date, reliable, and validated measure of rapport, addressing researchers' calls for advancing research despite inconsistencies in the interpretation of rapport. Theoretically, this thesis addresses neglected areas related to the optimal conditions for building and assessing rapport. Practically, the Rapport-Pro serves as a valuable toolkit for rapport-building strategies that can be directly implemented by interviewers, informing training programs, guiding professional practice, and facilitating knowledge exchange.

Dissemination

Associated Publications

Parts of this thesis have been submitted or will be submitted for publication following the submission of the thesis.

The systematic review in Chapter 2 was accepted for publication in *Applied Cognitive Psychology* in April 2024:

Brouillard, C., Gabbert, F., & Scott, A. J. (2024). Addressing current issues in assessing professional rapport: A systematic review and synthesis of existing measures. *Applied Cognitive Psychology*, 38(3), e4205. <https://doi.org/10.1002/acp.4205>

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The development of the Rapport-Pro (Chapter 3) will soon be submitted to the journal - *Psychology Public Policy and Law*:

Brouillard, C., Gabbert, F., Scott, A. J. (under review). Developing a novel measure of rapport for use in Professional Investigative Information-Gathering Contexts; the Rapport-Pro.

The validation of the Rapport-Pro (Chapter 4) is also in preparation for submission to *Psychology Public Policy and Law*:

Brouillard, C., Gabbert, F., Scott, A. J. (under review). Validation of a novel measure of rapport for use in Professional Investigative Information-Gathering Contexts; the Rapport-Pro.

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- Brouillard, C., Gabbert, F., & Scott, A. J. (2022, June). *Assessing professional rapport: Systematically mapping evidence to inform the development and validation of a new measure* [Oral presentation]. *International Investigative Interviewing Research Group (iIIRG) Conference 2022*, Winchester, UK.
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- Brouillard, C. (2022, November). *Student/ECR Spotlight: Research and Career Paths*. *International Investigative Interviewing Research Group (iIIRG)* [Online presentation].
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Chapter 1

Introduction and Literature Review

Models of Investigative Interviewing

Investigative interviews consist of gathering comprehensive and precise descriptions of a situation or event, ultimately contributing to broader investigative (and sometimes legal) decision making (Meissner, 2021; Meissner et al., 2023; Powell et al., 2005; St-Yves, 2014). The interview process encompasses interpersonal and psychological skills necessary to facilitate communication between an interviewer and interviewee, who could be a witness, victim, suspect, or a confidential informant (Meissner et al., 2023). Initial account interviews are often considered to be the most critical (Fisher et al., 1987), as the primary goal is to facilitate the retrieval of extensive and accurate information. Research supports that conducting interviews based on recommended best-practice guidelines leads to better interview outcomes, with thorough and accurate accounts being vital in determining if a criminal case is prosecuted or closed (Powell et al., 2005). Meissner et al. (2023) suggest three main challenges associated with investigative interviewing which directly affects disclosure of information: (i) biases affecting the interviewer's behaviours; (ii) the fragility of memory, and (iii) resistance to cooperation. Regarding the last challenge, it is found that reluctance to share information does not only occur in interviews with suspects but also witnesses and victims who may withhold relevant information or refuse to cooperate (Hershkowitz et al., 2006). Consequently, researchers and practitioners have explored various approaches and techniques to increase cooperation, overcome reluctance and resistance, for the purpose of eliciting reliable information that could benefit investigations.

Investigative interviews are often discussed according to whether the underlying goal is information gathering or accusatorial (Hartwig, 2005). While information gathering

promotes establishing rapport and asking appropriate questions to gather a complete and reliable account, accusatorial approaches rely on controlling and psychologically manipulative methods to elicit a confession (Bull, 2014). The REID technique is a particularly influential example of an accusatorial technique which aims to break down resistance and increase willingness to confess (Gudjonsson, 2003). This technique has been widely criticised for being unethical through its use of deception within its five core principles: (i) control (removing any sense of familiarity or comfort within the suspect's surroundings), (ii) social isolation (destabilising and generating anxiety in the suspect), (iii) certainty of guilt (the idea that any innocent suspect will respond in denial whilst the guilty will ultimately confess), (iv) minimisation or elimination of culpability (justifying the alleged crime to offer the suspect to "save face"), and (v) interpretation (or analysis) of the suspect's behaviour. Despite accusatorial approaches prevailing historically (Roberts, 2012), the REID technique is not used as an interview model in the UK as it dramatically increases the risk of the interviewee providing unreliable information (Evans et al., 2013). Both laboratory and field studies examining use of such techniques highlight that longer interrogation periods, isolation, presentation of false evidence and minimisation of procedures enhance the risks of false confession (Drizin & Leo, 2004; Kassin et al., 2010; Meissner et al., 2014, Redlich & Goodman, 2003; Russano et al., 2005). This is supported by a meta-analysis (Meissner et al., 2014) demonstrating that accusatorial techniques lead to more false confessions and fewer true confessions in comparison to information gathering approaches. Based on a body of research demonstrating the relative benefits of rapport-based information gathering approaches, researchers agreed that mandatory recommendations for investigative interviewing are required based upon scientific evidence of "what works" (Brimbal et al., 2021; Meissner et al., 2010).

The Conversation Management (CM) method is a good example of an information gathering approach used to interview suspects. At its core is the goal of demonstrating respect and professionalism, in addition to skills the interviewer can use to elicit information (Shepherd, 1986). These skills are summarised in the acronym 'RESPONSE': Respect, Empathy, Supportiveness, Positiveness, Openness, Non-judgemental attitude, Straightforward talk, and Equality. Shepherd argues that such behaviours facilitate an interview by encouraging relationships and, subsequently, information disclosure (Shepherd & Griffiths, 2020). In 1990, a third of forces across the UK had adopted the CM model, but a confession seeking culture remained with a series of misconduct and miscarriages of justice forcing a reform of the investigative interviewing approach in England and Wales (Bull & Rachlew, 2020; Shepherd & Griffiths, 2021). Following this reform, one of the most influential interviewing techniques, the Cognitive Interview (CI; Fisher & Geiselman, 1992), was developed by applying empirical and theoretical cognitive and social psychology research to investigative information-gathering settings. The CI includes a combination of memory-enhancing strategies (e.g., context reinstatement) and social dynamics particular to the interview context (e.g., establishing rapport; Akca et al., 2021). A multitude of reviews demonstrated the benefits of the CI in facilitating more detailed and accurate accounts from interviewees when compared to a typical (non-CI) police interview (Meissner et al., 2014; Memon et al., 2010).

The CM and CI methods ultimately informed the development of the PEACE model, the UK national model of investigative interviewing to this day (Shepherd & Griffiths, 2021). PEACE is an acronym of the stages which should be involved prior to, during, and after an investigative interview. The acronym 'PEACE' stands for: (i) Planning and preparation, (ii) Engage and explain, (iii) Account, clarification, and challenge, (iv) Closure, and (v) Evaluation. The PEACE model encompasses the values of the CM model by highlighting the

importance of respect and rapport building within the interview setting, as well as the use of appropriate questioning. In 1999, following a national (UK) training programme on the PEACE method of interviewing, a shift was observed in favour of using information-gathering practices (Bull & Soukara, 2010; Clarke & Milne, 2001; Clarke, Milne & Bull, 2011).

More recently, the importance of an information-gathering approach was emphasised by the United Nations supporting the development of a universal protocol for applying non-coercive interviewing as the minimum standard to be adopted by all law enforcement agencies (Mendez, 2021). The Mendez Principles outline a new set of guidelines relying on an evidence-based foundation and facilitating a switch from coercive interviewing techniques to recommended information-gathering approaches. These new guidelines encompass six main principles whereby effective interviewing: (i) “is instructed by science, law and ethics”, (ii) “is a comprehensive process for gathering accurate and reliable information while implementing associated legal safeguards”, (iii) “requires identifying and addressing the needs of interviewees in situations of vulnerability”, (iv) “is a professional undertaking that requires specific training”, (v) “requires transparent and accountable institutions”, (vi) “requires robust national measures”. Particularly, the Mendez principles highlight the extensive body of research indicating that rapport-based interviewing stimulates communication between the interviewer and the interviewee, facilitates memory retrieval, increases the accuracy and reliability of information provided, enables exploration of the veracity of information provided, increases the likelihood of information-rich and genuine admissions, and reduces the risk of eliciting false information or false confessions (Mendez, 2021).

The benefits of establishing rapport-building strategies have been highlighted in both empirical and practical information-gathering contexts (Kelly et al., 2015; Redlich et al.,

2014; Russano et al., 2014). In fact, a wide range of research demonstrates a positive relationship between rapport, trust (Macintosh, 2009) and reporting accurate information (Brimbal et al., 2021; Brimbal et al., 2019; Collins et al., 2002; Dianiska et al., 2021; Duke et al., 2018a; Kieckhaefer et al., 2014; Nash et al., 2016) whilst diminishing the number of incorrect details (Vallano & Schreiber Compo, 2011). Rapport has also been found to be effective at overcoming the reluctance of uncooperative suspects, increasing the likelihood of suspects engaging and disclosing information (e.g., Alison et al., 2014; Alison et al., 2013; Kelly et al., 2016; Walsh & Bull, 2012). Thus, the importance of rapport lies in its ability to facilitate a non-coercive atmosphere conducive to cooperation and information disclosure (Abbe & Brandon, 2014; Brimbal et al., 2019; Gabbert et al., 2021). Consequently, all international best practice interview guidelines emphasise the importance of building rapport to elicit quality information (Achieving Best Evidence, Ministry of Justice, 2022; Army Field Manual, Department of the Army, 2006; College of Policing, 2022; Cognitive Interview, Fisher & Geiselman, 1992; NICHD Protocol, Lamb et al., 2007; PEACE model, CPTU, 1992).

Rapport

Defining Rapport

Despite the wide-ranging literature advocating for the benefits of rapport-building strategies in professional information-gathering contexts, there is still no agreed definition of rapport. For the past decade, scholars have consistently pointed out that the definition and operationalisation of rapport remain vague and vary between researchers (Gabbert et al., 2021; Neequaye & Mac Giolla, 2022; Richardson & Nash, 2022; Sauerland et al., 2018; Saywitz et al., 2015; Vanderhallen & Vervaeke, 2014; Vallano & Schreiber Compo, 2015). For instance, some refer to rapport as “a state of communicative alliance” (Abbe & Brandon, 2013), while others describe it as “a positive mood between interviewer and interviewee”

(Ministry of Justice, 2011). Some scholars adopt a broader perspective on rapport, conceptualising it as a positive dyadic interaction between an interviewer and an interviewee, characterised by active listening skills aimed at demonstrating attentiveness to the interviewee (Kleinman, 2006; Tickle-Degnen & Rosenthal, 1990). Notably, discrepancies in the interpretation of rapport are evident across countries. For instance, official guidelines in the UK interpret rapport as “developing a relationship or bond with the witness so they feel comfortable and how this improves the accuracy and amount of information they give” (College of Policing, 2022). By contrast, best practice in the USA suggests rapport “does not necessarily mean a friendly relationship” (The Army Field Manual, Department of the Army, 2006, section 8.4). These disparities also extend to different organisations and training programs. Interestingly, the REID technique advocates for building rapport before employing an accusatorial approach to interviewing suspects, defining rapport as “a relationship marked by conformity” (Inbau et al., 2005, p. 51). Consequently, it is important to acknowledge that varying interpretations of rapport result in a wide range of inconsistencies in how rapport is operationalised and assessed. Despite such discrepancies, rapport is often assumed to be uniform across interview guidelines (Neequaye & Mac Giolla, 2022). Thus, the impact of discrepancies in rapport regulations on the generalisability of findings across the literature remains unclear (Meissner et al., 2015; Walsh & Bull, 2012).

An interesting observation in more recent definitions of rapport used in different professional contexts, is a move away from referring to feelings of rapport or affective elements. Instead, the focus is placed more upon the interpersonal skills of the interviewer. For instance, the terms ‘working relationship’ and ‘working alliance’, started to be used to define rapport within investigative contexts whereas originally, they were used in therapeutic settings (Abbe & Brandon, 2013; Kelly et al., 2013; Vallano & Schreiber Compo, 2015; Walsh & Bull, 2012). Building on these terms, “professional rapport” was recently introduced

and defined as “an intentional use of rapport behaviours in an attempt to facilitate a positive interaction with another person that might or might not lead to establishing genuine rapport” (Gabbert et al., 2021, p. 330). Gabbert and colleagues developed this term after systematically reviewing studies that examined the use and measurement of rapport in professional contexts. Others have similarly defined rapport based on particular (professional) context. For example, Crough et al. (2022) used the term ‘interrogative rapport’ in the context of suspect interviews to refer to “a temporary working relationship created strategically by the interviewer to increase the likelihood that the suspect will disclose crime-relevant information that could be used against him or her in subsequent investigative and judicial processes” (p. 225).

In 2022, Neequaye and Mac Giolla explored the discrepancy in rapport definitions by reviewing the range of definitions of rapport reported in the scientific literature. Only 32 out of 228 relevant publications explicitly defined rapport, resulting in a total of 22 different definitions. While they found six main attributes characterising rapport (communication, mutuality, positivity, respect, successful outcomes, and trust), these were inconsistently included across definitions of rapport. More worryingly, most papers remained unclear regarding the definition of rapport they were referring to (see Alison et al., 2013; Duke et al., 2018a; Vanderhallen et al., 2011; Vanderhallen & Vervaeke, 2014). Neequaye and Mac Giolla (2022) highlighted how these inconsistencies impede empirical assessments of rapport and called for a collaborative effort to determine what constitutes rapport. They call for a working definition of rapport, agreed upon collaboratively between scholars and practitioners.

Theorising Rapport

The concept of rapport in psychology is most often discussed with reference to Tickle-Degnen and Rosenthal’s (1990) model of rapport, which consists of three

interconnected components that fluctuate throughout an interaction: mutual attention, positivity, and coordination. Mutual attentiveness refers to a cohesive interaction which encompasses active involvement, and shared interest. Positivity is characterised by mutual friendliness, care, and the expression of positive emotions. Coordination involves both parties reaching a shared understanding, achieving a balance that enables smooth and fluent interaction. Additionally, Tickle-Degnen and Rosenthal suggest that the presence of each component of rapport may vary throughout the interaction, with certain components being more prominent at specific stages of an interaction. For instance, positivity is primarily present at the beginning of the interaction, aimed at forming an initial favourable impression, before gradually diminishing as the relationship is established. In contrast, coordination follows the opposite trend, occurring later in the interaction once both parties are comfortable with each other. Mutual attention is conceptualised as occurring consistently throughout the interaction. The model was evaluated by Bernieri et al. (1996) who invited dyads to engage in interaction and subsequently rate the rapport experienced in their interaction. The interactions were recorded, and the prevalent behaviours observed in interactions that received high ratings of (self-rated) rapport were coded. Findings largely supported the tripartite model. Of relevance to consider within the current thesis, however, is that Tickle-Degnen and Rosenthal's model was originally developed to understand naturally emerging rapport in a social context, drawing insights from an analysis of rapport experience (Tickle-Degnen & Rosenthal, 1990). Therefore, it may have limited application to the building of rapport in an investigative setting, as the components of rapport may vary differently between a social and professional context.

In social settings, interactions are characterised by a shared autonomy, nurtured by common ground and shared experiences, leading to the natural emergence of rapport over time (Oxburgh et al., 2023). Conversely, rapport in investigative information-gathering

contexts often consists of a pronounced power asymmetry between the interviewer and the interviewee, whereby the interviewer assumes a position of authority which inherently influences the dynamics of interaction. Individuals' formal roles in the interaction also dictate whether they are imparting or receiving information, thus creating a power imbalance between the interviewer and the interviewee (Powell et al., 2005). Furthermore, rapport in professional settings is frequently instrumental, subjected to time constraints and aimed at eliciting information to ascertain the truth. Consequently, the interviewee (suspects in particular) may respond with a range of differing motivations for engaging with the interviewer, potentially exhibiting reluctance or resistance towards rapport-building and information disclosure (Oxburgh et al., 2023).

In summary, Tickle-Degnen and Rosenthal's (1990) model focuses on rapport development within social relationships but does not address a notable divergence between building rapport in social versus professional contexts. In response, review articles by Abbe and Brandon (2013, 2014) discussed how Tickle-Degnen and Rosenthal's model could be adapted to the context of information gathering interviewing. Utilising the original three components of rapport (mutual attention, positivity, and coordination), they summarised and mapped key behavioural strategies (verbal and non-verbal) associated with rapport. However, it is unclear from the literature whether this adapted model has been used.

Another approach that has been developed to assess rapport within investigative settings, in particular, rapport-based interviewing involved with high-value suspects/detainees, is that of Alison et al.'s (2013) 'Observing Rapport-Based Interpersonal Techniques' (ORBIT) model. ORBIT is heavily influenced by rapport-related behaviours found in counselling psychology and is comprised of three main components: (i) Motivational Interviewing strategies (autonomy, acceptance, adaptation, empathy, evocation), (ii) an interpersonal behaviour circle (Leary & Coffey, 1954) assessing the interrogator-

suspect interaction, and (iii) interview yield relating to the suspect disclosure of information. In contrast to Tickle-Degnan and Rosenthal's model, Alison et al. delve into the power dynamics inherent in information-gathering interviews, proposing that law enforcement adopts a similar approach to Motivational Interviewing. This approach entails employing suitable questioning techniques, demonstrating empathy, and being non-judgmental, goal-oriented and responsive to the interviewee by employing active listening strategies. In particular, ORBIT relies on theories of self-enhancement which propose that individuals strive to uphold a positive self-concept or self-integrity (Leary, 1955; Steele, 1988). Consequently, they tend to respond positively to individuals who convey an accurate and genuine understanding of who they are, as this diminishes feelings of vulnerability and enhances self-esteem (Dianiska et al., 2021). Thus, comprehending the interviewee's self-concept and values, is crucial to establish identity-based influence. This allows interviewers to demonstrate expertise and customise their communication to align with the interviewee's own cognitive framework. However, this form of influence is difficult to achieve and usually requires time, interaction, and background understanding of the interviewee.

While ORBIT remains an influential model of rapport-based interviewing, it fails to sufficiently address the mismatch between an investigative context and a therapeutic context (on which it is based). Motivational Interviewing aims to facilitate behavioural change and resolve ambivalence in partnership with the interviewee. Conversely, information gathering interviewing primarily aims to collect pertinent information crucial for resolving investigations, regardless of whether it aligns with the desired outcome of the interviewee. In fact, the interviewer and interviewee may have conflicting desired outcomes, with the interviewer striving to uncover the truth and the interviewee attempting to mislead or divert the interviewer from the truth to evade accountability for their actions. Therefore, a notable discrepancy arises in the objectives of the interaction between Motivational Interviewing and

investigative interviewing, resulting in a disparity in the role of the professional (counsellor vs. interviewer). Maintaining the principle of information gathering interviewing, achieving the non-confrontational stance advocated by Motivational Interviewing remains challenging, particularly in scenarios where the veracity of a suspect's claims necessitates scrutiny or with certain types of offenders. In such cases, challenging the suspect's assertions might be necessary by employing appropriate techniques such as a strategic use of evidence (Luke et al., 2016). Aligning with the principles of Motivational Interviewing can be particularly difficult when interviewing serious offenders (e.g., sex offenders) because officers may be less understanding or empathic (Oxburgh et al., 2006, 2012, 2015). Thus, it is unclear how Motivational Interviewing applies to information-gathering settings, and it might be best suited for specialised context, such as interviewing detainees.

Drawing upon this body of work, it can be argued that the absence of a clear definition of rapport influences how the construct is theorised and conceptualised in the literature. Some approaches focus on describing the specific behavioural strategies associated with rapport, while others adopt a more holistic perspective of the processes involved when conducting information-gathering interviews. In an effort to integrate both holistic and strategy-based approaches, Brimbal et al. (2021) formulated a new framework. They emphasise the dynamic and adaptive nature of interactions between interviewers and interviewees, highlighting the utilisation of behavioural strategies across multiple interactions. They place cooperation and information disclosure as the main objectives of the interaction, and include two types of strategies, relational (e.g., building rapport, active listening, and empathy) and informational (e.g., memory-enhancing strategies, appropriate questioning), both of which enhance the cooperation of an interviewee and in turn, information disclosure. In their model, they conceptualise relational strategies as distinct behavioural strategies involving rapport and trust, active listening, and empathy. While their

model accommodates various interviewing contexts and addresses the professional dynamics inherent in interactions between interviewers and interviewees, it delineates distinct strategies, albeit with a notable overlap among the relational techniques discussed. Nonetheless, several questions persist, including inquiries into how these strategies interrelate and how rapport differs from trust, particularly in the context of employing active listening and empathy tactics. Recent research suggests that rapport and trust are related yet distinct concepts (Hillner et al., 2023). Rapport pertains to the atmosphere and dynamics of an ongoing interactive event, focusing on the immediate interaction. In contrast, trust focuses on the aftermath of an interaction by minimising uncertainty about another person's behaviour.

In summary, while there are several theoretical frameworks attempting to explain rapport, the lack of agreement of what rapport represents leads to inconsistencies in how rapport is conceptualised. There is limited literature addressing how different related concepts and components of rapport interact and how these can be operationalised in an investigative context. Consequently, there is limited literature exploring the interaction of various related concepts and components of rapport, as well as how these can be effectively operationalised within an investigative context.

Operationalising Rapport

What works when attempting to establish rapport has been researched within investigative contexts and other information-gathering disciplines (e.g., education, sales, and marketing), and it is common for researchers to derive their own operationalisation of rapport based on other disciplines. For example, research suggests that some persuasive techniques used in marketing and sales have been utilised by police officers to build rapport with their informants (Cialdini, 2001; Royal & Schutt, 1976). However, building rapport is a challenging skill to develop and master (Powell, 2005), especially within investigative contexts where interviewers often have little prior knowledge of the interviewee. This lack of

familiarity can lead to the interviewee feeling uncomfortable about disclosing information (Ignatius & Kokkonen, 2007). Nunan et al. (2020) conducted interviews with police sources' handlers (N = 24) regarding their experience and perception of the utilisation of rapport strategies. When asked about the ability to train rapport building, source handlers generally agreed that there are different degrees of innate aptitude to building rapport based on an individual's interpersonal skills, which could potentially be improved through training. They conclude by stating that "not only should source handlers be made aware of adaptive behaviours of rapport that are beneficial, it is vital that they are also aware of how maladaptive behaviours may be detrimental to rapport and ultimately intelligence collection" (Nunan et al., 2020, p. 528). Hence, it is crucial to assess effective rapport-building strategies in professional contexts to facilitate the translation of research into practice which should explain the functions of these strategies and why they are advocated for (Oxburgh et al., 2023).

In 2021, Gabbert et al. conducted a systematic review of the literature exploring the manipulation and measurement of verbal and non-verbal behavioural strategies used to foster rapport within information-gathering contexts. They categorised each behaviour according to the overarching purpose (or goal), and ultimately highlighted three primary functions integral to building rapport: (i) personalising the interview; (ii) being approachable; and (iii) paying attention. A diverse array of verbal, non-verbal, and para-verbal behaviours can be used to reach each goal, as discussed in the following sections.

Personalising the Interview

This strategy helps the interviewer to build a personal connection with the interviewee by expressing an interest in them as an individual (Gabbert et al., 2021). Behaviours associated with this function include using someone's preferred name, showing an interest in them as a person, and highlighting some similarity with the interviewee by sharing

information about oneself where appropriate (self-disclosure). Personalising the interview is advocated in the Cognitive Interview (Fisher & Geiselman, 1992) and is supported by theoretical and empirical concepts. Theoretically, it has been argued that self-disclosure fosters a sense of connection in both the person disclosing information and the recipient, promoting mutual disclosure, and enhancing the bond between them (Collins & Miller, 1994). In investigative contexts, an interviewer may opt to disclose personal information, consequently fostering a greater affinity with the interviewee. This increased rapport is thought to facilitate the interviewee reciprocating with disclosures of their own, ultimately strengthening the bond between the interviewer and the interviewee. Thus, self-disclosure enables the interviewer to get to know the interviewee better. In turn, the interviewer might then be able to tailor and personalise the interview to the interviewee based on that knowledge. Moreover, gaining a deeper understanding of the interviewee enables the identification of similarities between the interviewer and the interviewee. Theories of interpersonal relationships underscore the significance of similarity as a key factor in attraction and likeability, with individuals being more drawn to those who share similarities with them (Byrne, 1962).

Gabbert et al. (2021) reported that self-disclosure was used as a technique to personalise an interview and build rapport in 40% ($n = 14$) of studies included in their review. Behaviours used to personalise an interview have been extensively researched, finding on the whole that establishing common ground increases both cooperation and disclosure (Goodman-Delahunty & Howes, 2016). Evans et al. (2014) investigated the effect of emotional tactics employed in the U.S. Army field manual (The Army Field Manual, Department of the Army, 2006) on the amount of information elicited within an interview. The positive emotional tactic included flattery and self-disclosure and was found to result in higher perceived rapport with the interviewer while moderating the relationship between

rapport and information elicited during the interview. Vallano et al. (2015) reported that the most common technique reported by law enforcement in the U.S. to find common ground was to engage in small talk and self-disclosure. However, Vallano and Schreiber Compo (2011) found that an interviewer self-disclosing about themselves does not always result in reciprocal disclosure of information or increased perceptions of rapport. More recent research suggests that it might be the quality of self-disclosure that is important. For example, Dianiska et al. (2021) found that interviewers who used self-disclosure as a tactic increased the participants' perception of rapport with the interviewer which ultimately resulted in greater cooperation. Interestingly, this effect was amplified when interviewers paid attention to the similarities they shared with the participants. This effect is found across several studies suggesting that increasing similarities between an interviewer and an interviewee increases perceived rapport and cooperation (Brimbal et al., 2019, 2021; Dianiska et al., 2019). Supporting this, a recent study by Marin and Gabbert (2023) found that rapport ratings increased when similarities with the interviewee were disclosed. In contrast, highlighting dissimilarities led to a decrease in perceived rapport. Other behaviours have been studied with the intention to personalise the interview. For instance, Kieckhaefer et al. (2014) provided interviewers with a script pushing them to use the interviewee's name, ask personal questions and then to display interest in the information disclosed in response. Using a similar strategy, Wachi et al. (2018) found that personalising an interview was more effective in eliciting (true) confessions than presenting suspects with actual evidence.

Being Approachable

Gabbert et al.'s (2021) systematic review reported that interviewers in several studies used smiling, open body language, and an appropriate tone of voice (conversational or neutral as opposed to hostile), each of which served the goal of enabling the interviewer to appear approachable. Within the context of an investigative interview setting, the power dynamic

means that the interviewee can perceive the interviewer as part of an out-group rather than someone with whom they inherently affiliate. Consequently, if the interviewer has an approachable demeanour this can help to mitigate the uncertainty surrounding the interviewer's identity and group membership. This, in turn, increases the probability of the interviewee perceiving the interviewer as an in-group member, thereby enhancing rapport, and ultimately facilitating higher levels of cooperation. By contrast, a distant and uncooperative demeanour may lead the interviewee to perceive the interviewer as an out-group member, diminishing the sense of rapport and reducing cooperation.

Indeed, research supports that an interviewee is more inclined to cooperate when they feel comfortable with the interviewer as opposed to when the interviewer adopts a distant and uncooperative stance (Zulawski & Wicklander, 1993). Practically, this means that heightened levels of rapport could subsequently mitigate anxiety and cognitive load, thereby facilitating retrieval and disclosure of relevant information (see Fisher & Geiselman, 1992). This primary aim of rapport can be found consistently throughout the literature with later models including components with a similar intent. For example, one of the key components of ORBIT includes offering non-judgmental acceptance of the interviewee and their story (Alison et al., 2013). This holds particular relevance due to the higher likelihood of disclosing sensitive information when individuals feel accepted and supported (Kelly, 2002). Previous research with both adults and children suggests that the interviewer taking an encouraging and positive stance results in more detailed accounts without increasing the number of errors (Collins et al., 2002; Roberts et al., 2004).

Paying Attention

Active listening, use of empathy, eye contact, and head-nodding to indicate interest, understanding, and appreciation of the information being shared were all aggregated as attentive behaviours frequently used by researchers and practitioners to develop and maintain

rapport and encourage disclosure of information (Gabbert et al., 2021). Paying attention is central to specific training methodologies, which prioritise active listening techniques (Milne & Bull, 1999). This concept aligns with the notion of “mutual attention” within rapport, as proposed by Tickle-Degnen and Rosenthal (1990). Yet, Gabbert et al. (2021) contend that while mutuality is desired, it cannot be guaranteed in a professional context. Instead, they advocate for attentiveness to be consistently demonstrated, regardless of whether reciprocity is present. In a recent study, participants were questioned about the obstructive behaviours impacting rapport and indicated that a lack of attention and focus from the interviewer would lead to a decrease in rapport (Kiltie et al., 2023). Thus, if there is a lack of a demonstration of attention and engagement, interactions may be damaged, resulting in a reduction of the information disclosed by the interviewee (Abbe & Brandon, 2013; Holmberg & Madsen, 2014; Walsh & Bull, 2012).

Consistent with Gabbert et al.’s (2021) findings, Abbe and Brandon (2014) offer further examples of behavioural strategies, such as leaning forward, maintaining eye contact, smiling, nodding, and using verbal encouragers like “mm-hmm” to prompt the interviewee to continue, orienting one’s body toward the interviewee or reducing physical distance. Moreover, active listening skills can involve backchannel responding (e.g., “ok,” “yes,” “uh-huh”) and occasionally paraphrasing the interviewee’s statements. Similarly, research in crisis negotiation indicates that techniques such as repeating back, summarising, or labelling the interviewee’s statements can be employed to demonstrate attentiveness (Vecchi et al., 2005). In short, there are a range of verbal and non-verbal behaviours that can be used to achieve this general goal of demonstrating attentiveness.

Behaviours used to pay attention can also align with ‘conversational rapport’ tactics, which are grounded in Motivational Interviewing (Miller & Rollnick, 2013). Conversational rapport encompasses autonomy, adaptation, evocation, acceptance, and empathy (Brimbal et

al., 2021). Autonomy allows individuals to express themselves without pressure, promoting a comfortable exchange. Adaptation customises questions to responses, improving perceived autonomy and conversational fluidity. Evocation brings out emotions, facilitating empathy and acceptance. Successful evocation elicits empathetic responses, creating a nonjudgmental atmosphere. Particularly, rapport building skills and empathy have been reported as associated constructs, with empathy playing a crucial role in an interaction (Bull & Baker, 2020). In this context, empathy pertains to the capacity to comprehend a situation from another individual's viewpoint and effectively convey an understanding of the circumstances (Galinsky et al., 2008). Empathy necessitates the use of perspective-taking abilities to indicate that the recipient can grasp not only the content of what is being communicated but also the emotions the individual may be experiencing (Gabbert et al., 2021). The use of empathy has been positively associated with higher levels of cooperation from suspects of sexual offences (Holmberg & Christianson, 2002; Kebbell et al., 2006). Empathy is also a key component of the ORBIT model of rapport and has been reported to increase cooperation from suspects, contrasting with coercive methods that tend to diminish cooperation (Alison et al., 2013).

Application of Strategies

Overall, there are a range of verbal and non-verbal behaviours that can be used to build rapport via (i) personalising the interview; (ii) being approachable; and (iii) paying attention. Rapport should not be constrained by a rigid one-size-fits-all approach; rather, it should be responsive, adaptable, and flexible to accommodate the unique characteristics and requirements of the individual being interviewed. Careful consideration of which rapport-building behaviours are appropriate might also be influenced by the social and cultural background of the interviewee (Abbe & Brandon, 2014). Some researchers have suggested that certain rapport behaviours may inadvertently come across as threatening. Considering

neurodivergence, maintaining prolonged eye contact, for instance, may be less desirable as it could potentially increase discomfort for the interviewee (Kiltie et al., 2023). This supports findings indicating that rapport behaviours may differ between autistic and non-autistic individuals, underscoring the importance of considering the characteristics of the interviewee in tailoring the rapport approach (Rifai et al., 2022). While rapport-building strategies are typically associated with positive outcomes, it is essential to acknowledge that they can lead to adverse effects if contextual awareness or individual characteristics are disregarded. Indeed, the appropriateness of these strategies should be carefully considered, as employing them excessively or inadequately could be detrimental to the process of rapport building (Kiltie et al., 2023).

Measuring Rapport

Rapport is typically evaluated via one of two methods: First, by employing questionnaires to gauge an interviewer's utilisation of rapport behaviours or by self-reporting their own perceptions of rapport. Second, through observational measures where trained coders assess interactions based on predefined indicators of rapport behaviours. In their review, Gabbert et al. (2021) analysed methods for assessing rapport and found that various disparate measurement techniques were employed by researchers to quantify rapport. They highlighted minimal overlap in the measurement tools utilised, with only one instance where a research team adopted a rapport measure previously employed by another team (see Oostinga et al., 2018). Thus, the inconsistency in defining rapport in turn affects how rapport is measured in the literature.

Another problem with having a range of measurements of rapport is that it is currently unclear which party (the interviewee, the interviewer, or an independent observer) provides the most reliable assessment of rapport. Some studies suggest that observers may rely on invalid cues (e.g., smiling and expressivity) when assessing rapport, considering less

important behaviours rather than more valid cues such as forward lean and mutual silence (Bernieri & Gillis, 1995). Besides, the context of the interview may affect the accuracy of ratings, with confrontational interactions resulting in less accurate judgement than cooperative interactions (Bernieri et al., 1996). Another study in this field suggests that an observer untrained in rapport-based techniques was more likely to judge rapport based on subjective cues but that being aware of their subjectivity improved their ability to rely on more objective cues of rapport (Grahe & Bernieri, 2002). Interestingly, only one study has compared different perspectives of rapport; Richardson and Nash (2022) investigated whether there was any correlation in estimations of rapport between interviewees, interviewers, and observers. Overall, their study indicated a consensus in perceptions of rapport between interviewees and observers, but not with the interviewer, suggesting that interviewers may not be able to provide an accurate estimation of their own rapport skills. Therefore, it is unclear at this point which perspective of rapport leads to best estimations of how much rapport was built during an investigative interview, and – in turn – whose rapport ratings best correlate with the amount of cooperation and disclosure.

Despite the complexities associated with defining and instrumentalising rapport, measures of rapport are widely used within the investigative interviewing literature. Despite the value of being able to quantify rapport, most measures fall short of having an adequate development and validation process. This is not surprising given the complexities of developing new measures. While there is limited training on measure development, a few papers have reviewed and outlined recommended best practice procedures. For example, DeVellis and Thorpe (2021) suggest the following recommended process: (i) a construct is determined; (ii) an item pool is generated; (iii) the measure's structure is created; (iv) experts review the initial item pool; (v) items are validated; (vi) items are pre-tested; (vi) items are evaluated, and (viii) the scale is optimised. Further, Boateng et al. (2018) reviewed and

outlined best practices in scale development and validation which included three main phases: (i) items are generated and evaluated for content validity; (ii) the scale is constructed which includes steps such as reducing the number of items, and assessing the factorial structure of the scale, and; (iii) the validation process verifies the number of dimensions, reliability, and validity of the scale.

While such papers contribute to the appropriate development of measures, they also highlight the cost and time-consuming nature of the process which often results in incomplete scales assessing key physical, mental, and behavioural attributes (Boateng et al., 2018). In information-gathering settings for example, only four scales have been purposefully developed to measure rapport between an interviewer and interviewee: (i) Alison et al. (2013); (ii) Collins and Carthy (2018); (iii) Duke et al. (2018a); and (iv) Vallano and Schreiber Compo (2011). Among these four main measures, only Duke et al.'s (2018a) 'Rapport Scales for Investigative Interviews and Interrogation, Interviewee Version' (RS3I), has been validated in accordance with (some of) the methodological recommendations outlined above (see Boateng et al., 2018). The RS3I questionnaire assesses an interviewee's rapport experience across five dimensions: Attentiveness, Trust/Respect, Expertise, Cultural Similarity, and Connected Flow. A series of experiments have evaluated the scale's internal consistency, as well as its construct and concurrent validity, affirming its robustness. Duke et al. (2018a) integrated cultural similarity into their measure, based on the premise that similarity enhances attractiveness (Byrne, 1962), although direct evidence linking cultural similarity to rapport is currently scarce. Furthermore, the ecological validity of this construct could be disputed, as matching an interviewer's cultural background with that of the interviewee can be challenging, particularly given budget constraints and time limitations in law enforcement settings. Despite being regarded as the most thorough effort to validate a rapport measure in investigative contexts, the content validity of the RS3I could be called

into question as it relied on undergraduate students' rapport ratings and lacked expert evaluation of its components.

The remaining three measures of rapport (Alison et al., 2013; Collins & Carthy, 2018; Vallano & Schreiber Compo, 2011) provide very little information regarding the validity and reliability testing of their measures. Despite its widespread use and Alison and colleagues' (2013) successful validation of its factorial structure, the ORBIT model has been criticized for its complexity, which directly hinders its practical application. Further, some researchers have argued that it is unclear how the measure correlates with the feeling of rapport as a construct (Collins & Carthy, 2018), or how rapport is perceived by an interviewee (Duke et al., 2018a). Collins and Carthy, therefore, developed their own rapport measure inspired by Tickle-Degnen and Rosenthal's (1990) verbal indicators of rapport. They applied the tripartite model to suspect interviewing and operationalised mutual attention as referring to both parties engaging with and paying attention to one another, positivity referring to the friendly and approachable nature of the interaction, and coordination as the synchrony and shared understanding between both parties. Last, Vallano and Schreiber Compo (2011) assessed rapport using a questionnaire, comprising interviewer and interaction subscales. However, both measures lack validation, and researchers have raised concerns about the reliability of Vallano and Schreiber Compo's questionnaire (see Duke et al., 2018a).

In sum, despite the existence of a few promising measures of rapport developed for investigative interviewing contexts, researchers often opt to create their own measures instead of relying on existing ones. This trend directly arises from the absence of a universally agreed-upon definition, thereby hindering the development of a commonly agreed measure of rapport (Gabbert et al., 2021; Neequaye & Mac Giolla, 2022). The limited consistency across studies in the way rapport is defined, conceptualised, operationalised, and measured create clear challenges for developing effective evidence-based guidelines for the training and

assessment of rapport. Given the importance of rapport and the imperative to determine the most effective means of quantifying it, there is merit in systematically examining existing measures of rapport and using them as a foundation to develop a reliable and validated measure of rapport.

Aims, Rationale, and Structure of the Thesis

The primary aim of this thesis is to develop and validate a new measure for assessing rapport, drawing upon a comprehensive theoretical framework that integrates theoretical and empirical research on rapport. The foundation of the current thesis lies in the definition of professional rapport proposed by Gabbert et al. (2021), which emphasises the significance of behavioural strategies employed by interviewers to (i) personalise relationships, (ii) appear approachable, and (iii) demonstrate active listening skills, with the overarching goal of reaching (iv) genuine rapport. Therefore, the core research question of this thesis is how rapport can be reliably and accurately measured in professional information-gathering settings?

To address this question, the current thesis consists of three key phases: (i) a systematic review, (ii) scale development, and (iii) scale validation. First, a systematic review was conducted to examine the existing measures of rapport in various professional information gathering contexts (see Chapter 2). Having collated the measures included in the review, the Rapport-Pro was then developed, evaluated, and subsequently validated, adhering to best practice recommendations in scale development and validation. The first prototype of the measure was developed over three phases ensuring of the quality of the content of the measure: (i) construct identification and item generation, (ii) pre-testing and face validity, and (iii) expert evaluation and content validity (see Chapter 3). Subsequently, a survey study was conducted to evaluate the measure's psychometric properties, considering its factorial structure and reliability (see Chapter 4). Both Chapter 4 and Chapter 5 provided different

types of evidence to evaluate the validity of the Rapport-Pro. Study 1, presented in Chapter 4, assessed early signs of concurrent validity, which were complemented by Studies 2 and 3 in Chapter 5, further examining its factorial, construct, and concurrent validity, as well as employing item-response theory (see Chapters 4 and 5). Finally, Chapter 6 presents a general discussion summarising key findings and offering insights and implications that address the overarching research question.

Chapter 2

Addressing Current Issues in Building Rapport

Chapter Summary

The role of rapport facilitating cooperation and information disclosure has been widely acknowledged by both researchers and practitioners across professional information-gathering contexts (i.e., professional contexts). However, the definition and assessment of rapport are still debated, resulting in a lack of reliable and commonly used tools to effectively measure rapport. This chapter consists of a review exploring how rapport has been measured in professional contexts and illustrates key characteristics of published measures in a Searchable Systematic Map. A total of 111 research articles and 126 measures of rapport were evaluated based on standards in scale development and validation. The measures' conceptualisation of rapport was also examined with their individual items being coded for the following theorised components of rapport: (i) paying attention, (ii) personalising the interview (iii) being approachable, and (iv) establishing a mutual connection. Findings are synthesised and discussed in relation to the overarching patterns found, including limited consistency and validity in current measures of rapport. Recommendations are provided for future research and incorporated in the following chapters of the thesis, informing the development and validation of a synthesising measure of rapport (see Chapters 3 and 4).

Note. This chapter was published in Applied Cognitive Psychology on the 21st of May 2024.

Introduction

A notable gap in the literature is that there is no review examining published measures of rapport. While Gabbert et al.'s (2021) review, outlined in Chapter 1, provided significant insights regarding the conceptualisation and assessment of rapport, it did not specifically focus on the key features of available measures of rapport, thus raising questions about the scope of the inconsistencies reported. In particular, uncertainties remain regarding whether discrepancies in rapport measurement stem from a lack of consensus in its definition or from methodological challenges in the development, testing, and validation of such measures. Given the current issues in defining, assessing, and operationalising rapport, and building on Gabbert et al.'s review, a systematic review exploring the conceptualisation and psychometric properties of published measures of rapport across professional contexts was conducted.

Despite the existence of several promising measures of rapport developed specifically for investigative interviewing settings, each measure varies greatly in terms of the underlying theory upon which it is based, and in the way rapport is measured (self-report versus observational). The limited consistency across studies in the way rapport is both defined and measured creates clear challenges for developing effective evidence-based guidelines for the training and assessment of rapport. In response to the challenges encountered in defining, assessing, and operationalising rapport, and building upon the insights from Gabbert et al.'s review, a systematic review was conducted to investigate the psychometric properties and conceptualisation of rapport in published measures of rapport across professional contexts. Not only does this enable us to examine the tendencies found in measures of rapport included in Gabbert et al.'s review, it also allows us to identify gaps in the literature and make recommendations for developing, assessing, and training rapport.

This chapter presents a systematic review of existing measures of rapport across professional contexts, featuring a dyadic interaction whereby one party aims to elicit

information and cooperation from another. It aims to examine how rapport is measured in professional contexts, including investigative interviewing, counselling and therapeutic sessions, medical interviews, teaching, and marketing interactions. As recommended, the current review considers the following working definition of rapport: “an intentional use of rapport behaviours in an attempt to facilitate a positive interaction with another person that might or might not lead to establishing genuine rapport” (Gabbert et al., 2021, p. 330).

Additionally, a Searchable Systematic Map (SSM) was produced to illustrate and organise key psychometric properties of current measures of professional rapport. The systematic review and accompanying SSM will: (i) provide an overview of published measures, sub-measures, and observational assessments of rapport within information-gathering contexts; (ii) organise and illustrate the existing literature according to the key psychometric properties and required methodological recommendations in measure development and validation; and (iii) summarise key findings to inform the use of published assessments of rapport and highlight any gaps and inconsistencies requiring further attention. Together, the present review broadens our understanding of rapport via comparison and evaluation of various measurement techniques, thus enabling us to explore further the debate surrounding its definition, operationalisation, and assessment.

Methodology

A systematic review was conducted to better understand how rapport has been measured within professional contexts. Data collection for the review comprised a systematic process involving a keyword search, a two-phase screening process of relevant articles, and the development of an SSM illustrating key characteristics of the review. These stages are detailed below.

Keyword Search

In June 2021, a keyword search was conducted across three academic databases (PsycINFO, Web of Science, PsycTESTS) to identify articles that included a measure of rapport across different professional contexts. A Boolean keyword string was generated using the PICO (Population, Intervention, Comparison, Outcome) framework (See Appendix A; available on the Open Science Framework https://osf.io/qg4mx/?view_only=d1e94adb156e43efb1c7e82485abf65f) to cover all relevant components of the research question as recommended by the Cochrane Handbook for Systematic Reviews (Higgins et al., 2022). As a result, the following Boolean search string was generated where all words must appear in the full text: (*rapport* OR 'rapport-building' n3 (measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rate* OR rating* OR rated OR self-report*)*). A separate hand search was then completed to identify additional published measures of rapport.

Inclusion and Exclusion Criteria

This review concerns rapport in professional contexts and defines rapport in accordance with Gabbert et al. (2021). We include dyadic interactions due to the focus on building rapport between two people in a professional setting. For this reason, measures of rapport in social settings are not included. As recommended by previous researchers (e.g., Marsh et al., 1998; Robinson, 2018), measures should consist of multiple items, with a minimum of three items assessing the construct of interest either as part of a scale or a subscale of a wider measure assessing different constructs. Thus, the inclusion criteria required studies to: (i) assess rapport in a professional context between two parties as defined previously, (ii) include a measure (i.e., assessment) of rapport regardless of its origins (original, modified, or single-use measure), (iii) be a published article consisting of either a scale, subscale, or an observational coding system (iv) be written or available in English, (v)

comprise adult samples (18 years of age or above), and (vi) provide either an exemplar or a reference to the measure in full in order to understand key characteristics (e.g., number of items, item wording). Finally, the availability of the scale was used as an inclusion criterion. If the measure of rapport was not found in the article or online, the primary researchers of the study were contacted by email requesting a copy of their measure of rapport. After two weeks, a final reminder was sent to those who did not respond to the initial email. A lack of response to both attempts resulted in the exclusion of the article from the review.

The articles did not meet inclusion if: (i) rapport was assessed in a personal context, (ii) at least one of the parties was a group (rather than a dyadic interaction), (iii) there was no explicit measure of rapport, (iv) the assessment used did not meet our definition of a measure (i.e., it included a single item or a two-item scale), (v) the measure was part of the grey literature (unpublished manuscripts, conferences, dissertations), (vi) children were included as part of the methodology, and (vii) the measure was inaccessible. Inclusion and exclusion criteria are summarised in Table 1.

Table 1

Inclusion and Exclusion Criteria Employed in the Screening of the Review

	Inclusion	Exclusion
Population	Adults aged 18 and over including all cultures.	Studies including or intended for children (below 18).
Intervention	Published and available observational and psychometric measures of rapport.	Unavailable scales and grey literature (e.g. PhD theses).
Outcome	Professional rapport and rapport building: “Professional rapport building is simply an intentional use of rapport behaviours in an attempt to facilitate a positive interaction with another person that might or might not lead to establishing genuine rapport.” (Gabbert et al., 2021).	If definition not satisfied (e.g., group).

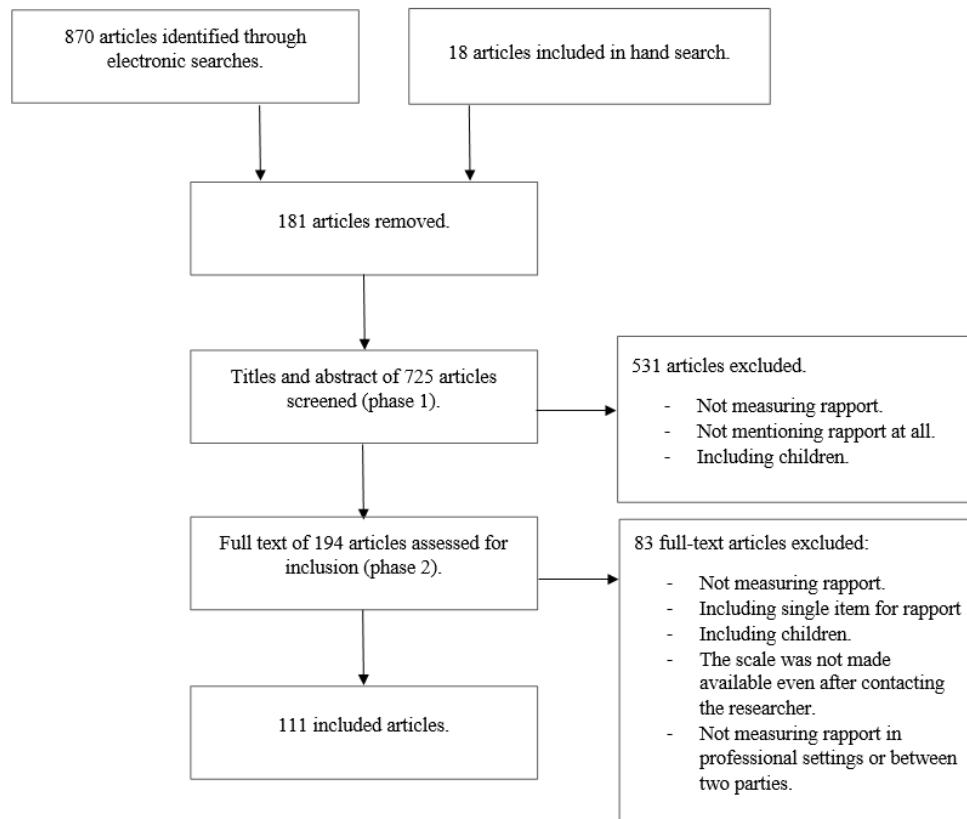
Setting	Professional settings.	Any personal settings (e.g. friendship, family).
Study design	Quantitative research, written in English.	Qualitative research, reviews, meta-analyses or book chapters (unless they suggest they are testing something), written in languages other than English.

Search Results

The initial database search identified a total of 870 articles, with 707 remaining after the removal of duplicates. A hand search resulted in the inclusion of a further 18 articles, including originally established measures referenced in the articles identified by the database search. Figure 1 displays the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart of the search and screening process, including the number of articles identified during the review, the number of articles included and excluded, and the rationale for excluded articles. At the beginning of the full-text screening, a total of 19 articles referred to a measure that was not made available within the respective articles. When contacting the researchers to request the measure, two main issues arose: establishing contact with the researchers and locating the measure of rapport. For example, there were instances where an email address could not be confirmed, and it was not possible to connect with researchers using professional social media (e.g., LinkedIn and ResearchGate). Furthermore, several authors could not remember or find the exact measure they had used for a particular article. As a result of this process, nine accessible measures of rapport remained in the review, and 10 inaccessible measures of rapport were excluded from the review.

Figure 1

PRISMA Flow Chart of the Search and Screening Processes



Screening Process

A two-phase screening process was used to refine the search to the most relevant articles based on the inclusion and exclusion criteria. In the first phase, the titles and abstracts of the articles were checked for relevance to assessments of rapport in professional contexts. Overall, 707 articles were screened resulting in 531 articles being excluded. The 176 articles that passed the first phase of screening, including borderline cases where doubts remained about the methodology, were then subjected to a second screening.

In the second phase of screening, the definition of rapport and set of inclusion and exclusion criteria previously outlined were examined across the full text of each article included at the first phase. A total of 111 articles (94 from the keyword search and 18 from the hand search) were deemed eligible for inclusion. Both phases of screening were

completed by the lead researcher. Interrater reliability was computed to verify the lead researcher's reliability in coding. Here, two independent researchers external to the review coded 15% of randomly selected data in both screening phases: 107 articles from the title and abstract screening phase, and 26 from the full-text screening phase. Interrater reliability was then established by conducting Intraclass Correlations Coefficients (ICC) comparing the decisions of the three coders across both screening phases. Overall, a moderate to high degree of reliability was found between the three coders for both the title and abstract (ICC = 0.79) and the full-text screening (ICC = 0.75). Following each phase, a meeting was organised to discuss and resolve any disagreements among the coders.

Developing the Systematic Searchable Map

To visualise and summarise the 111 articles eligible for inclusion, a Systematic Searchable Map (SSM) was built as an Excel file, allowing for various filters to be applied to facilitate exploration of the literature. The SSM can be accessed through the Open Science Framework (OSF) website (https://osf.io/qg4mx/?view_only=d1e94adb156e43efb1c7e82485abf65f). Column(s) of interest can be easily identified, and filters can be applied from a drop-down list of options, enabling the reader to interact with the data.

Each row in the SSM represents an article which qualified for inclusion, while the columns present a summary of the design for each study and key features relating to methodology, reliability, and validity. Columns also indicate whether the study developed a new measure of rapport as part of their methodology or adapted an originally developed measure resulting in a modified measure, which normally involved the removal or addition of items. Validity is a difficult concept to define and the validation process of newly developed or modified measures can vary greatly (Sechrest, 2005). Boateng et al. (2018) suggest in their guide titled 'best practice primer for developing and validating scales in health, social, and

behavioural sciences' that validity should be demonstrated using predictive validity and a minimum of two different types of construct validity such as convergent and discriminant validity. Therefore, the measures of rapport were considered validated if predictive, discriminant, and convergent validity (or another form of construct validity) were explicitly and successfully assessed in the same article.

Additional columns within the SSM indicate which components of rapport or rapport building behaviours are being assessed within the measures of rapport. The components of rapport were informed by relevant theoretical models (e.g., Abbe & Brandon, 2013; Gabbert et al., 2021; Tickle-Degnan & Rosenthal, 1990) and include: (i) *paying attention* (acknowledging and understanding the knowledge and feelings of the interviewee), (ii) *personalising the interview/interaction* (the interviewer making a direct action in order to build a relationship or personalise the interview), (iii) *being approachable* (presenting an approachable and open demeanour), and (iv) establishing a *mutual connection*. Importantly, the first three components were highlighted by Gabbert et al. (2021) as the most common rapport strategies established via various verbal, non-verbal, and preverbal behaviours. The fourth component represents the feeling of rapport, or the mutual connection experienced between the interviewer and the interviewee. For example, Abbe and Brandon (2013) highlighted the notion of a shared or mutual understanding which emerges throughout the interaction via mutual information disclosure, and transparency regarding the parties' mutual expectations or preferences (Valley et al., 2002). A fifth component, *being professional*, was added to capture the essence of several items featuring across measures of rapport that focused on maintaining an appropriate and respectful work ethic. Items from measures of rapport that were not represented by one of these components were omitted from further analysis. For example, Bronstein et al. (2012) included an item asking about satisfaction with the negotiation process. However, most items featured in the measures of rapport (98.4%, n =

124) were represented by at least one of the five components, and this process gave a good insight into how researchers conceptualised rapport.

Results & Discussion

In total, 111 articles were eligible for inclusion in the review, featuring 126 measures of rapport. Each measure followed a dyadic interaction whereby one party aimed to elicit information from the other. The articles spanned a wide range of fields including psychology featuring therapeutic and supervisor-supervisee relationships (32.4%, $n = 36$), education examining the teacher-student relationship (17.1%, $n = 19$), criminal justice examining the interaction between an investigative interviewer with witnesses, suspects, or victims (16.2%, $n = 18$), the health and medical sector examining the relationship between a practitioner and their patient or trainee (14.4%, $n = 16$), computer science examining human-computer interaction (12.6%, $n = 14$), business examining the interaction between an employee and a customer (5.4%, $n = 6$), and hospitality examining the interaction between a server and a customer (1.8%, $n = 2$).

Of the 126 measures of rapport included in the review, 40.5% ($n = 51$) presented original measures, where a new measure was purposely developed as part of the study methodology, 23.8% ($n = 30$) presented modified measures, and 35.7% ($n = 45$) used a previously developed measure without any modifications. This led to the generation of two interconnected themes, the lack of consistency of measures of rapport and the tendency to develop single-use measures. Both themes are likely to be a direct result of divergence in how rapport is defined in the literature (Neequaye & Mac Giolla, 2022). The remainder of this Results and Discussion section focuses only on original and modified measures of rapport (64.3%, $n = 81$). Of these 81 measures, 93.8% ($n = 76$) were questionnaire-based using Likert rating scales, and 6.2% ($n = 5$) were designed as observational coding systems. Regardless of format, the measures are discussed below in relation to how well they adhere to

recommended best practices in scale development and validation, as outlined by *the Standards for Educational and Psychological Testing*, summarised by Linn (2011). These include the following considerations: (i) instrumentation, (ii) psychometric scales, (iii) observational assessment, (iv) reliability, and (v) validation. Following this, (vi) the item analysis will follow with a more nuanced consideration of the items within each scale included in this review. Discussions aim to shed light on how researchers have conceptualised and chosen to measure rapport.

Instrumentation

This recommendation relates to the importance of clarity surrounding the construct being assessed, the population that the test is for, and how scores should be interpreted or used. Most measures performed well on this element. For example, all articles discussed the importance of instrumentation within the relevant context (e.g., a medical context, an educational setting, an investigative interview). However, a definition of rapport was not always presented. Most measures were explicit regarding whom the test was designed for, with options asking for information from the professional (e.g., the doctor, counsellor, teacher, interviewer), the giver (e.g., the patient, student, interviewee), or an independent observer. A small number of measures (2.5%, $n = 2$) did not report who the measure of rapport was designed for.

Most measures (66.7%, $n = 54$) were designed for the information giver to report their perceptions of rapport with the professional they had interacted with. This is of no surprise, given that they are the target of rapport-building efforts. However, in real-life settings it is often difficult to ask for perceptions of rapport in this manner. In contrast, only 11.1% ($n = 9$) of measures assessed rapport based upon the perspective of the professional. The next most popular method was to rely on the perception of third party trained observers; used in 18.5% ($n = 15$) of measures of rapport. Approximately a third of these measures were based on

observational coding systems (33.3%, $n = 5$) and two thirds were psychometric scales (66.7%, $n = 10$). Observational coding systems allow for a more pragmatic and complex understanding of how rapport fluctuates during an interaction. For instance, Collins and Carthy (2018) developed their own observational measure based on Tickle-Degnen and Rosenthal's (1990) model of rapport and found that rapport behaviours were more prominent at the beginning of an interview. Alison et al. (2014) also developed their own observational measure inspired by motivational interviewing and interpersonal theories. Their research demonstrates the association between rapport-based techniques and adaptive interview practice as well as reduced passive, verbal, and no comment counter-interrogation tactics.

Interestingly, only a single study examined rapport from more than one perspective. Richardson and Nash (2022) compared measures of rapport in an investigative interviewing context comprising a suspect, a lead interviewer, a secondary interviewer, and an independent observer. Their findings revealed that there was a consensus in rapport ratings among all parties apart from the lead interviewer, implying that the lead interviewer may not provide the best estimation of how much rapport was built between themselves and the interviewee. In fact, previous research has demonstrated how challenging it is for people to accurately self-reflect on their own expertise (Dunning et al., 2003). Regardless, Richardson and Nash's (2022) findings raise an important consideration regarding which person's rating of rapport is most reliable, and which correlates best with desired outcomes such as cooperation and disclosure.

Psychometric Scales

This recommendation relates to the importance of clarity surrounding the administration, both for the test administrator and for the person completing the measure. In addition, it emphasises that a rationale should be provided for the process by which the measure was developed. Overall, measures performed well, and adequate information was

reported that would allow future researchers to use the measure of rapport. However, 4.9% ($n = 4$) did not indicate the presence or absence of reversed items, and 2.5% ($n = 2$) did not provide information as to how participants should respond to the items. These omissions relate to important methodological information that prevents other researchers using the measure, thus preventing any replication or extension of the research.

There was a large amount of variability in the number of items used to assess rapport, with measures ranging from a minimum of three items to a maximum of 130 items. To respond to the items, most measures (85.2%, $n = 69$) used Likert scales. The remaining 14.8% ($n = 12$) of measures used one of the following types of response: a Guttman's scale, a 100-point rating scale, a 10 cm analogue scale, a continuous scale, a continuum, or a 9-point unipolar rating scale. The format of the scales also varied greatly including both unidimensional and multidimensional measures. Rapport was most often measured holistically through a range of items, for example, Brimbil et al. (2021) used a range of different items requiring the interviewee to rate their impression of the interviewer, ultimately generating a single score for rapport. Measures of rapport were also developed based on a multidimensional structure, for example, Duke et al. (2018a) measured five different aspects of rapport: (i) attentiveness, (ii) trust/respect, (iii) expertise, (iv) cultural similarity, and (v) connected flow. In addition, Gremler and Gwinner (2000) built their measure based on two individual subscales: (i) enjoyable interaction, and (ii) personal connection. This variability further reflects the tendency to self-develop different ways to measure rapport and suggests inconsistencies in this field reach as deep as the dimensionality of the measures of rapport.

Observational Assessments

This recommendation relates to the importance of clarity surrounding the scoring criteria, specifically, that sufficient detail should be provided to ensure accuracy when scoring or coding the measure. Of the 81 measures, nearly half (46.9%, $n = 38$) did not

explicitly report how the measure should be scored, making consistent use of the measure difficult due to the lack of scoring or coding information. The same number of measures (46.9%, $n = 38$) used Likert scales or similar, where scores were typically summed or averaged to quantify rapport. The remaining measures (6.2%, $n = 5$) comprised observational assessments. Alison et al.'s (2013) 'Observing Rapport-Based Interpersonal Techniques' (ORBIT) measure is an influential tool (Duke et al., 2018a) which has been used in multiple articles by the original research team. Despite the measure having good factorial validity, the review did not comment upon any other research teams applying ORBIT in experimental studies. A reason for this, is that ORBIT focuses on rapport built over repeated occasions and incorporates complex concepts that require training (see Alison et al., 2013). Importantly, little distinction has been made within the literature between rapport built over short and long periods of time, or that repeated interviews allow additional instances to enhance the relationship between an interviewer and an interviewee.

The other observational measures of rapport (4.9%, $n = 4$) each developed their own coding system (Bronstein et al., 2012; Collins & Carthy, 2018; Drolet & Morris, 2000; Lubold et al., 2021). Bronstein et al. (2012) reviewed the literature and mapped verbal behaviours based on linguistics (e.g., verbal agreement, disagreement, compliments, or apologies) and Brown and Levinson's (1987) politeness theory which demonstrates the positive and negative impacts of dyadic interactions on impressions and emotions. Collins and Carthy (2018) further developed Tickle-Degnen and Rosenthal's (1990) theory by including verbal rapport-related behaviours to produce a systematic coding system. Drolet and Morris (2000) developed their own observational measure based on previous work by Bernieri et al. (1988) and coded solely nonverbal patterns of behaviour suggesting postural convergence, gestural synchrony, facial expression compatibility, and facial expressions of mutual interest. Finally, Lubold et al. (2021) created a coding system relating to verbal

elements of linguistic politeness which may increase or hinder the presence of rapport (e.g., praise, formal politeness, inclusivity, and name usage). Comparing these observational measures, Alison et al. (2013) and Collins and Carthy (2018) provide some overlap regarding the components of rapport being measured; both including common elements such as reporting use of reflective listening or paraphrasing. Recording name usage is also similar between Collins and Carthy (2018) and Lubold et al. (2021). Despite having some similarities, observational measures all rely on a different theoretical concept of rapport, resulting in different verbal and non-verbal behaviours of rapport being measured, thus once again reinforcing the inconsistencies across measures of rapport.

Reliability

Reliability relates to the interpretation of the score (including sub-scores where relevant) based on estimates of relevant reliability and standard errors of measurement. Of the 81 newly developed measures, 76.5% ($n = 62$) reported at least one type of reliability for the measure they used, and 23.5% ($n = 19$) did not report any type of reliability. Overall, the reliability was estimated by examining the internal consistency of the measure (87.1%, $n = 54$), the interrater reliability (11.3%, $n = 7$), both (1.6%, $n = 1$), or the separation reliability (1.6%, $n = 1$). Although the measures of rapport tended to be reliable, some articles failed to provide this important information. Assessing reliability is crucial to interpret assessments' scoring by demonstrating the consistency across usage of the measure and evaluating the magnitude of the measurement error (Linn, 2011). Therefore, most articles were in accordance with the best practice regarding reliability. Considering the statistics, only seven citations included in the review reported poor reliability whereby the reported values were either below 0.60 (Cronbach's alpha) or between 0.21 to 0.40 (Cohen's Kappa); these include Alison et al. (2013); Appel et al. (2012); Carlson and Lundqvist (2016); Hutcheon et al. (2017); Joe et al. (2002); Kim et al. (2020); and Surmon-Bohr et al. (2020). From these

citations, the reliability of the rapport behaviours included in ORBIT's motivational interviewing component has consistently been poor (as reported by Alison et al., 2013; Kim et al., 2020; Surmon-Bohr et al., 2020).

Validation

Validation ensures that “an instrument [measure] indeed measures the latent dimension or construct it was developed to evaluate” (Raykov & Marcoulides, 2011, p. 184). It particularly refers to a process which begins by defining the construct of interest and follows by exploring its generalisability with other related constructs (Messick, 1995). Two main themes emerged regarding the validity of measures of rapport. First, there seem to be different pathways to assess the validity of a measure. Based on common best practice, measures were regarded as validated when at least two types of construct validity and predictive validity were assessed (Boateng et al., 2018). A minority of measures (11.1%, $n = 9$) followed these recommendations, with the tendency to rely on Confirmatory Factor Analysis (CFA) to validate a measure. For instance, Alison et al. (2013) conducted a CFA to validate the factor structure of their coding systems. However, CFA only indicates that an a priori structure fits the sample and is replicated (Brown & Moore, 2012). Thus, it is unclear how a predefined structure fits within a definition and the literature of a given construct. Similarly, validity is a complex concept which cannot be assessed directly, but rather through individual aspects of validity which are deemed relevant. For instance, Gremler and Gwinner (2000) validated their measure by examining construct validity. Convergent validity was demonstrated via correlations between total rapport scores and single-item rapport scores, and discriminant validity was indicated via the constructs under investigation being within two standard errors of one (Anderson & Gerbing, 1988). As another example, Duke et al. (2018a) correlated their measure with other measures of rapport to demonstrate convergent and discriminant validity. Additionally, they assessed concurrent validity which indicated their

measure was predictive of the use of rapport strategies during an interview and significantly correlated with the amount of shared information.

Looking more closely at the validity, of those which either developed or modified a measure of rapport ($n = 81$), a concerning 87.7% ($n = 71$) were not validated, and only a small minority (12.3%, $n = 10$) adhered to the validation guidelines adopted in this review. It is unclear, therefore, whether most measures of rapport appropriately assess the construct of interest. Furthermore, given their use in both research and practice, the findings from these measures should be considered carefully because there is a tendency to build single-use measures of rapport, promoting a quick and easy development process. These rarely adhere to best practice in measure development and, in turn, rarely attempt to validate their measure. However, a subset of researchers who have developed measures of rapport with goals of long-term use often fail to demonstrate the validity of these measures.

The current review only considered the more traditional route as a sign of validation which requires several aspects of validity to be tested. However, it should be acknowledged that other methods, such as CFA, exist to validate the theoretical structure of a measure. In this case, it seems like validation is predominantly considered for newly developed measures. Validity was rarely checked when researchers used and modified an originally developed measure by removing or adding items. Best practice in scale development suggests validity should be verified as soon as a new measure is developed or modified. In fact, changes in the structure of a measure may directly affect the reliability and validity of a measure. For instance, Juniper (2009) raised concerns regarding the modification of validated questionnaires, warning that modifying the initial format of a measure risks affecting how people respond to the measure once modified. Therefore, we advise that any modification to a validated measure is carefully considered and implemented.

Item Analysis

In the item analysis, items from across the questionnaire-based measures were categorised based upon which component of rapport they were assessing. Four of the components were borne from relevant theoretical models and reviews of rapport (e.g., Abbe & Brandon, 2013; Gabbert et al., 2021; Tickle-Degnan & Rosenthal, 1990), and included (i) *paying attention*, (ii) *personalising the interview/interaction*, (iii) *being approachable*, and (iv) *establishing a mutual connection*. The results suggested that most measures assessed *personalising the interview* items (72.8%, $n = 59$), *being approachable* items (72.8%, $n = 59$) and *establishing a mutual connection* items (71.6%, $n = 58$), while 63.0% ($n = 51$) of measures assessed *paying attention* items. Thus, the current review supports the components of rapport highlighted by previous research. Overall, 18.5% ($n = 15$) of the measures of rapport included items from all four components. There was only one instance where the measure did not assess any of these components of rapport (Spreng et al., 2009). Instead, the items in Spreng et al.'s measure of rapport focused on traits of empathy which inherently reflects an individual's personality rather than a particular context.

While coding the items, it became apparent that many measures included assessments of the interviewer's expertise and professionalism. For example, Duke et al. (2018a) referred to the performance and professional conduct of the interviewer during the interview including items such as "the Interviewer made an effort to do a good job" or "the Interviewer acted like a professional". Thus, to capture the importance of *being professional* among researchers, this element was acknowledged as a fifth component of rapport. However, it is unclear at present how being professional relates to the development of rapport and how it fits into the theoretical structure informed by previous reviews. One concern is the subjective nature of professionalism and the precise way in which it relates to rapport. For example, an interviewee may not believe the interviewer completed a good job of the interview, but an

observer may believe that the interviewer satisfied all best practice requirements. Future research is needed, therefore, to consider what is expected of a professional interviewer and to explicitly describe the level of professionalism required. At the very least, a being professional component could be part of a toolkit as a reminder of what is considered best practice in the field.

In general, the current findings are promising as they imply a large amount of agreement on what comprises rapport, with at least one of the five components being recognised as a key element of rapport. However, the variance in perceptions of how rapport should be measured remains important and little empirical attention has been given to individual components of rapport.

Implications

While research on rapport has flourished, more investigation is needed to target two key issues highlighted in this review: (i) consistency and (ii) validity. Regarding the first issue, a lack of consistency between measures directly affects the generalisability of findings in the field. As such, it is important and necessary to reach an agreement regarding how rapport should be defined and measured. There is a tendency to develop single-use measures, and thus it is strongly suggested that researchers look for an already established measure of rapport when possible. However, this tendency may highlight a general dissatisfaction with current measures and requires more research to ensure the development of an evidence-based measure that adheres to the methodological best practice recommendations of measure development. In addition, it may be useful to consider researchers' and practitioners' needs in operationalising rapport to directly target the lack of consistency across definitions and measures. Perhaps commonalities can be established between what both parties consider to be important when building rapport in professional contexts. Regarding the second issue, the lack of validity relating to developed measures of rapport represents a significant limitation in

the available literature. While concerns regarding consistency relate to the generalisability of findings on rapport strategies, concerns regarding validity relate to whether rapport is being properly measured across the literature and whether current measures of rapport assess the construct of interest. Therefore, future researchers are urged to consider one of the many paths to validation when developing or modifying measures as part of the methodology of their research.

Limitations

While the SSM allowed a precise analysis of the accessible measures of rapport, the results should be carefully considered in light of their limitations. First, despite a systematic approach taken to find relevant articles, it is possible that some relevant measures may have been missed. Although open science is a growing concept, allowing for supplementary materials to be made available, many articles that referred to a measure of rapport that had been developed or modified did not include access to the measure itself. As such, the accessibility of the measures is a significant factor preventing the inclusion of these measures in the review. We believe, therefore, that scale development processes would benefit from a registration process, similar to the process of registering systematic reviews and meta-analyses. For example, scale development measures could be registered and stored in one system, allowing all exemplars of the measures to be gathered and easily accessed. Not only would this approach help ensure that researchers' contributions to the field are accessible, but it would also allow for a more controlled and meticulous process of measure development, which would in turn improve the quality of measures in psychology in general.

Second, various interpretations exist for both rapport and validity. The current review purposely adopted the definition of professional rapport (Gabbert et al., 2021) and used traditional recommended guidelines of validation (Boateng et al., 2018). However, both rapport and validity are complex concepts because of their subjective nature which often

yield different definitions and applications. However, establishing rapport or validation of its measures are not a tick box exercise and we acknowledge that alternative methods can be used. Nevertheless, considering different interpretations, the lack of validation remains a significant issue which only adds to the difficulty of developing commonly accepted measures of rapport.

Summary & Recommendations

Building on Gabbert et al.'s (2021) systematic review, the current review explored how rapport is conceptualised via a detailed examination of published measures of rapport that have been used in professional contexts. As such, we extend Gabbert et al.'s findings by considering theoretical and methodological best practices in scale development and validation (Boateng et al., 2018). Synthesising the results of both Gabbert et al.'s work and the present systematic review, we offer a set of recommendations to address the lack of consensus in how rapport is defined, assessed, and operationalised.

Definition

The definition of rapport has been discussed at length in two recent discussion papers (Neequaye, 2023; Neequaye & Mac Giolla, 2022). The definition is important because it influences how rapport is understood and measured. In professional contexts, especially those featuring time constraints, it is often the case that rapport is sought after rather than achieved. Thus, Gabbert et al.'s (2021) conceptualisation and definition of professional rapport are arguably more representative of what happens in professional settings. This conceptualisation is also reflected in the literature, where there appears to be a shift from prescriptive notions of ideal interactions to practical strategies interviewers can employ to establish a professional connection with interviewees. For example, Brimbal et al. (2021) demonstrated that rapport skills can be trained, focusing on evidence-based strategies to be implemented by the interviewer that are known to increase rapport (e.g., active listening, use of empathy).

However, this shift is accompanied by a debate over the authenticity of rapport, with some arguing for the necessity of a mutual connection when building rapport. In response to previous papers calling for a working definition (Neequaye & Mac Giolla, 2022), we therefore endorse Gabbert et al.'s definition of rapport which suggests the functional use of rapport strategies by the interviewer to enhance cooperation between the interviewer and interviewee. This definition emphasises the interviewer's responsibility in building rapport without assumptions about the presence or absence of a mutual connection, the primary objectives remaining to encourage cooperation and to facilitate information disclosure.

Measures

This review has highlighted a lack of consistency across a variety of measures of rapport, as well as a notable gap in the literature: the absence of a validated and reliable measure suitable for accurately evaluating rapport. Although previous attempts within investigative settings have yielded valuable insights into rapport dynamics (e.g., Alison et al., 2013; Duke et al., 2018a), theoretical and methodological limitations remain. Based on the findings of the present systematic review, as well as reviews by Gabbert et al. (2021), Neequaye and Mac Giolla (2022), and Neequaye (2023), we propose that the accumulated research on professional rapport skills provides a strong basis for developing a new measure that fulfils all necessary criteria while being grounded in robust theoretical and methodological principles (AERA, APA & NCME as cited in Linn, 2011). We suggest that the present systematic review provides researchers with valuable information and insights to develop a new, synthesised measure of rapport, drawing upon our current comprehension of rapport-building strategies and their evaluations.

Methodology

The current review builds upon and expands the findings of Gabbert et al. (2021), revealing a significant lack of overlap among measures of rapport, not only within

investigative contexts but also across various professional contexts. Our review provides insight into the similarities and differences between the many individual rapport measures available and discusses the extent to which the development of such measures has adhered to best practices and recommendations for scale development. One of the most salient findings is the widespread lack of validity across most rapport measures, which hampers the generalisability of findings as well as raising questions about whether the construct under investigation (rapport) is truly being examined. Further, a significant portion of the measures reviewed pertained to modified versions of existing rapport measures. Given that minor alterations may affect and destabilise a measure's structure (Juniper, 2009), these types of modification are not recommended practice. If modifications are deemed necessary, we recommend the researchers provide a robust rationale for the adjustments and seek to ensure the reliability and validity of the modified measure.

While existing guidelines on developing new measures offer valuable insights into recommended best practice (AERA, APA & NCME as cited in Linn, 2011; Boateng et al., 2018; DeVellis & Thorpe, 2021), innovative methodologies such as Item Response Theory may also provide valuable information about the appropriateness of scale items. Given that research within investigative contexts aims to inform best practices, we advocate for the incorporation of expert evaluation. This involves seeking the expertise of practitioners or scholars to tailor rapport measures to the specific needs of the field, promoting further collaboration and addressing the urgent need of a consensus. Only a small number of rapport measures in the present review were found to incorporate expert evaluation, and many relied on student samples (see Duke et al., 2018a). Notably, Alison et al. (2013) emphasised the ecological validity of their measure by utilising real interviews with terrorists and trained investigators as coders. While accessing forensic-based samples may be challenging, we

believe it is feasible to incorporate expert evaluation and utilise more diverse samples to improve the content validity of new measures.

Conclusion

This review has summarised and synthesised how rapport has been measured across different professional contexts. Findings have been discussed in relation to accepted best practice in scale development and validation with regard to the instrumentation, psychometric scales, observational assessment, reliability, and validation of published measures of rapport. This review has also included an analysis of items within each measure of rapport to consider how rapport has been conceptualised, finding that most items relate to the main components of rapport as theorised in the literature. Overall, key limitations of existing measures include a lack of consistency between measures (potentially due to the multiple definitions of rapport at present in the literature), minimal adherence to recommendations in scale development and validation, and a lack of consideration of the intended audience of the measure to ensure its appropriateness and reliability. Therefore, the findings and recommendations from the current review have been integrated into the following chapters to overcome these limitations. This involves the development of a working framework and an associated measure of rapport synthesising existing assessments and theories of rapport.

Chapter 3

Development of the Rapport-Pro for Investigative Information-Gathering Contexts

Chapter Summary

This chapter describes the development of the Rapport-Pro according to best practice recommendations and incorporating suggestions from Chapter 1. The first three phases of the development of the Rapport-Pro are explained in the current chapter, including (i) the construct identification and item generation phase, (ii) the pre-testing and face validity phase, and (iii) the expert evaluation and content validity phase. The Rapport-Pro proposes a multidimensional approach to rapport, comprising a synthesis of items from published measures (collated in Chapter 1) organised in line with recent theories and reviews of rapport. A systematic approach to item generation was applied to generate and refine an item pool to be evaluated in a pre-testing. The face validity of the item pool was considered in the pre-testing study allowing for further refinement of the measure. Subsequently, a qualitative expert evaluation, conducted via focus groups, was employed to evaluate the content validity of the items, and to establish the initial prototype of the Rapport-Pro. The Rapport-Pro emerges as a comprehensive measure with a robust theoretical framework and consists of 30 items distributed across five distinct components of rapport: (i) mutual connection, (ii) paying attention, (iii) building a relationship, (iv) being approachable, and (v) being professional.

Introduction

To address complexities associated with measure development, various standards have been established for health, social, and behavioural research (see Linn, 2011). Drawing on these standards, several papers have proposed methodologies for scale development.

DeVellis and Thorpe (2021) recommend a comprehensive process involving, (i) determination of the construct, (ii) generation of an item pool, (iii) creation of the measure's structure, (iv) expert evaluation of the item pool, (v) validation of items, (vi) pre-testing of items, (vii) evaluation of items, and (viii) optimisation of the scale. Similarly, Boateng et al.'s (2018) recommended best practice recommendations in scale development and validation include (i) identifying the domain(s) and generating items, (ii) ensuring content validity, (iii) pre-testing questions, (iv) sampling and survey administration, (v) item reduction, (vi) extraction of latent factors, and (vii) conducting tests of dimensionality, (viii) reliability, and (ix) validity during the scale evaluation phase. In sum, there is a need for a measure of professional rapport, and there are excellent resources available for researchers who are interested in developing such a measure.

Of the four main scales purposefully developed to measure rapport discussed in previous chapters, each exhibit limitations in relation to the standards in scale development and validation proposed by DeVellis and Thorpe (2021) and Boateng et al. (2018). For example, Collins and Carthy (2018) and Vallano and Schreiber Compo (2011) fell short of evaluating the psychometric properties of their measures, preventing evaluation of the quality and efficacy of their tools in assessing rapport. Further, despite ORBIT being an influential measure of rapport, the efficacy of the model has only ever been assessed factorially (Alison et al., 2013), and its internal consistency has been flagged as problematic (Kim et al., 2020; Surmon-Bohr et al., 2020). A strength of ORBIT, however, is that it was developed using real interviews with terrorists, thus it can claim ecological and content validity. The fourth

measure, developed by Duke et al. (2018a), has demonstrable construct and concurrent validity. However, a limitation is that not all items have a theoretical underpinning (e.g., cultural similarity), meaning that features of the interview other than rapport are being assessed. Notably, not one of these four measures of rapport designed for use in a professional information gathering context has been evaluated by experts to ensure the quality of the items included. Further, none of the researchers utilised Item Response Theory (IRT) to identify items with minimal or no relationship with the domain under investigation. This technique plays a crucial role in refining measurement instruments by ensuring that only relevant and meaningful items are retained, ultimately enhancing the validity and reliability of the scale (see Harvey & Hammer, 1999). Thus, it can be argued that currently there is no reliable measure of rapport that has been developed and tested in line with best practice recommendations to provide sufficient evidence of the effectiveness, validity, and quality of the tool in measuring the construct of interest.

As discussed in Chapter 2, the absence of a universally accepted definition of rapport poses a significant challenge during the initial phases of scale development. Consequently, selecting a definition for the construct of interest and developing an appropriate item pool is a challenging task. The systematic review conducted in Chapter 2 serves as a valuable resource, providing a robust foundation for identifying the domain and generating an item pool for the development of a new and robust rapport measure. The current chapter adopts a mixed design, employing both quantitative and qualitative approaches to develop a new measure of rapport, the Rapport-Pro, in line with methodological recommendations in scale development and validation (e.g., Boateng et al., 2018; Linn, 2011). This chapter specifically follows steps i-iv outlined by Boateng et al. (2018) and includes a three-phase development approach encompassing (i) the construct identification and item generation, (ii) the pre-testing and face

validity evaluation, and (iii) an assessment of the content validity by employing an expert evaluation.

Methodology: The Development of the Rapport-Pro

Phase 1: Construct Identification and Item Generation

The systematic review in Chapter 2 laid the groundwork for the development of the Rapport-Pro by collating existing rapport measures across diverse information-gathering contexts. In line with recommendations from researchers like Neequaye and Mac Giolla (2022), Gabbert et al.'s (2021) definition of 'professional rapport' was adopted as the framework for the Rapport-Pro. This definition characterises rapport as "an intentional use of rapport behaviours in an attempt to facilitate a positive interaction with another person that might or might not lead to establishing genuine rapport" (Gabbert et al., 2021, p. 330). Therefore, the measure is centred on interpersonal skills and strategies which can be implemented by an interviewer to build rapport in professional settings. Items from 12 scales reviewed in Chapter 2 were aggregated. To construct an item pool fitting the selected definition of rapport, items were extracted if the scale was a validated measure of rapport, or if it assessed rapport from an observer or an interviewer's perspective. Considering the measure under development aimed to develop a self-rated measure of rapport rather than focusing on assessing the presence of rapport behaviours, only psychometric scales included in the systematic review were considered. These scales comprised five originally validated measures of rapport (Duke et al., 2018a; Efstation et al., 1990; Gremler & Gwinner, 2000; Horvath & Greenberg, 1989; Spreng et al., 2009), three non-validated measures designed from an observer's viewpoint (Anderson & Anderson, 1962; Harrigan et al., 1985; Windish et al., 2005), and four assessing rapport from an interviewer's perspective (Bolander et al., 2014; Brimbal et al., 2021; Grandey et al., 2019; Rowan-Szal et al., 2000). Of the five validated measures included in the item extraction, three referred to an interviewee's

perspective (Gremier & Gwinner, 2000; Horvath & Greenberg, 1989; Spreng et al., 2009), one focused on the interviewer/ professional perspective (Efstation et al., 1990), and one included all three versions and focused on the interviewee's perception (Duke et al., 2018a). The item pool was generated with a total of 311 items, forming the basis for the measure's development. The initial pool of items can be viewed by accessing the history of the measure's process, available on OSF. See Appendix B for all the links to the resources pertaining to the development of the Rapport-Pro.

Theoretical Framework

The measure of rapport was developed based on contemporary theories and reviews of the use of rapport in professional (cf. social) settings (see Abbe & Brandon, 2013; 2014; Gabbert et al., 2021; Tickle-Degnen & Rosenthal, 1990), which were synthesised into a single theoretical framework. The resulting framework utilised three primary categories of rapport behaviours outlined in Gabbert et al. (2021)'s systematic review: (i) *paying attention*, (ii) *building a relationship*, and (iii) *being approachable*. Additionally, the coordination components highlighted by Abbe and Brandon (2013; 2014), emphasising the synchrony or mutual engagement within interactions, were integrated as (iv) *mutual connection*. Furthermore, based on insights from Chapter 2, a fifth category emerged due to the abundance of items relating to interviewer expertise, ultimately represented as (v) *being professional*. This inclusion is particularly significant as professionalism is a fundamental aspect of key interviewing models like Conversation Management (CM), which later evolved into the PEACE model (Shepherd & Griffiths, 2021). The components comprising the theoretical framework underlying the new measure of rapport are defined below in Table 2.

Table 2*Definitions of Each Category of the Coding System used to Generate an Item Pool*

Components	Definition
Mutual Connection	The quality of the connection demonstrated by both parties and whether the interaction was mutually flowing.
Paying Attention	The verbal or non-verbal behaviours which demonstrate levels of empathy and an understanding of the perspectives of the interviewee.
Building a Relationship	The verbal or non-verbal behaviours aiming to build a connection through the interviewer personalising the interview and getting to know the interviewee.
Being Approachable	The verbal or non-verbal behaviours presenting the interviewer as approachable and open to discussion to facilitate the interviewee to speak.
Being Professional	The standard ethical conduct and professionalism of the interviewer.

Item Selection

A set of inclusion and exclusion criteria was developed to refine the item pool and systematically build the first prototype of the measure (see Table 3). Regarding the inclusion criteria, items had to relate to rapport or the use of behaviours to build rapport. Items were excluded if they (i) did not directly assess rapport-associated strategies or were too context specific (ii) referred to interviewee's perspectives and actions to build rapport which cannot be altered by the interviewer, (iii) were ambiguous or unclear, or (iv) included the interviewer and interviewee as one-step removed. Based on the criteria, a total of 97 items were included and 214 were excluded, refining the initial item pool. The previously synthesised theoretical framework was then applied to categorise the remaining items. Overall, 23 items were coded as *mutual connection*, 17 as *paying attention*, 16 as *building a relationship*, 25 as *being approachable*, and 16 as *being professional*. The reliability of this categorisation process was assessed using intraclass correlation coefficient (ICC), indicating a moderate to high degree of reliability among the coders (ICC = .76, 95% CI [0.67, 0.82], $F(178, 356) = 4.46, p <$

.001). Duplicates or similar items were eliminated ($n = 36$), resulting in a total pool of 61 items. These items were subsequently adapted, where necessary, to suit the context of investigative interviews, for example “*The counsellor understands completely the client’s feelings*” became “*The interviewer understands completely the interviewee’s feelings*”.

Table 3

Inclusion and Exclusion Criteria for Item Selection

Criteria	Inclusion	Exclusion
Measure aims	Use of behaviours or strategies associated with rapport in an information-gathering setting.	The item does not relate to rapport or is too context-specific (e.g., “ <i>My advisee is an apprentice of mine</i> ” or “ <i>I strive to make program requirements as rewarding as possible for my advisee</i> ”).
Perspective	The items refer to the interpersonal skills, strategies, or actions an interviewer can implement to enhance rapport.	The item refers to the interviewee’s perspective and actions to build rapport or elements which cannot be altered (e.g., “ <i>I become irritated when someone cries</i> ” or “ <i>The Interviewer probably shares my culture</i> ”).
Clarity	Express clearly the intention of a behaviour, skill or action.	An ambiguous or unclear item (e.g., “ <i>I help my trainee stay on track during our meetings</i> ”, or “ <i>The Interviewer acted like a professional</i> ”).
Nature of Interaction	The interviewer is directly involved in an interaction with the interviewee. The interaction is a dyadic working relationship.	Interviewer and interviewee are one-step removed (e.g., “ <i>My supervisor encourages me to formulate my own interventions with the client</i> ”, or “ <i>I encourage my trainee to take time to understand what the client is saying and doing</i> ”).

To ensure comprehensive coverage of rapport and professionalism, the College of Policing’s (2022) guidelines were consulted, leading to the addition of 55 new items. Specifically, the current item pool was compared against the guidelines for any strategy or skill which had not been covered yet (e.g., “*The interviewer referred to the interviewee by their preferred name*” or “*The interviewer made an effort to share common experience with*”).

the interviewee” were added). This increased the number of items in each component of rapport. The 116 items were reworded where necessary using a systematic approach, e.g., items were modified if they were (i) negatively valenced (e.g., “*The interviewer was bored and unreactive*”), (ii) too complex or double-barrelled (e.g., “*The interviewer explained his role and their willingness to do their job to the best of their ability*”), or (iii) did not apply to all types of interviews (e.g., in-person, online, suspects vs. witness). Items that remained unclear or overly complex despite rewording were removed, and those that no longer aligned with their originally assigned component of rapport were reassigned appropriately. This process excluded 34 items, resulting in a first prototype of 82 items.

Phase 2. Pre-Testing and Face Validity

To verify the understanding and clarity of the 82 items, a pre-testing study was conducted with a group of 20 people recruited through word of mouth and from Prolific (www.Prolific.com), awarding £6/hour for their participation. The sample included participants aged between 20 and 57 years ($M_{age} = 33.95$, $SD = 10.69$) with 15% ($n = 3$) of females and 85% ($n = 17$) of males, 70% ($n = 14$) recruited from prolific and 30% ($n = 6$) from word of mouth. Participants were briefed on the adopted definition of rapport and then presented with items relating to two (of the possible five) components of rapport. The individual components of rapport were presented to the participants individually, allowing them to rate the understanding and clarity of each item within the respective component. This process was repeated until participants had rated two randomly allocated components of rapport, with their individual items also presented in random order. The participants were blind to which components of rapport they were allocated to. For each item presented in each component, participants rated each item on two 5-point Likert scales: “*How well do you understand this item?*” (1, not at all to 5, extremely) and “*How clear is the wording of the item?*” (1, extremely unclear to 5, extremely clear). Participants were also invited to provide

feedback on any items they found problematic, ambiguous, unclear, or difficult to understand. After rating one of the components of rapport, participants were presented with the labels and definitions for each of the five components of rapport. They were then asked to indicate which component they believed was most related to the items they had just rated. Participants were instructed to select only one component by choosing the corresponding label of the component. The documents accompanying the ethics as well as the survey breakdown and its materials are provided in Appendix C.

The understanding and clarity of the items were assessed through the respective mean scores, generated for each item across all participants. Additionally, the mean scores were averaged for understanding and clarity respectively, allowing for overall scores of understanding and clarity for the component of rapport being investigated. Overall, the components of rapport were reported as appropriate by the participants, with averaged ratings of understanding and clarity reaching a rating of 4 and above out of 5. However, participants appeared to struggle particularly with items included as part of being professional (see Table 4). This was further reflected by most of the participants selecting accurately the appropriate components of rapport for the items they were ratings for *mutual connection*, *paying attention*, *building a relationship* and *being approachable*. *Being professional* was indicted again as being more difficult to grasp with more incorrect guesses (see Table 4).

Table 4*Overview of the Results of the Pre-testing*

	Understanding Averaged M	Clarity Averaged M	Mutual Connection	Paying attention	Building a relationship	Being approachable	Being professional
Mutual Connection	4.30	4.14	6	0	2	0	0
Paying attention	4.59	4.54	0	6	1	0	1
Building a relationship	4.64	4.65	0	1	7	0	0
Being approachable	4.76	4.80	0	0	1	6	0
Being professional	4.25	3.92	1	0	1	2	5

Note. The confusion table displays the count of correct and incorrect guesses made by participants when identifying each component. The diagonal values represent correct identifications, while off-diagonal values indicate confusion between components.

Consequently, items with a mean rating of 4.5 and higher were deemed to be acceptable, items with mean ratings between 4 and 4.5 were flagged for review, while those with a mean rating of below 4 were identified as problematic. Criteria for item modification, retention, or exclusion were established based on these ratings. Participant feedback was also considered and applied as necessary. For example, one participant expressed uncertainty about the term “affable” which resulted in the word being clarified or replaced accordingly. Following this process, 53 items remained (see Appendix B). Considering the absence of consensus on which perspective (observer, interviewee, or interviewer) provides the most accurate ratings of rapport, three versions of the measure were created such as Rapport-Pro: Interviewer, Interviewee, and Observer (see Appendix B). The final refining step was to modify items so that they corresponded to the perspective of (i) the interviewer (e.g., “*I was sincere with the interviewee*”), (ii) the interviewee (e.g., “*The interviewer was sincere with me*”), and (iii) an observer (e.g., “*The interviewer was sincere with the interviewee*”). While

all three versions of the Rapport-Pro exist, only the Rapport-Pro: Observer is used in the current thesis.

Phase 3. Expert Evaluation and Content Validity

A qualitative expert evaluation was conducted to assess the content validity of the remaining pool of items. The group of 12 experts comprised academics ($n = 10$) and practitioners ($n = 2$) active in the field of investigative interviewing. Upon the completion of the evaluation, experts received a £10 Amazon voucher. All experts were first contacted by email and provided consent to participating to the expert evaluation before being provided with an Excel file including the items ordered under the component of rapport it related to (see Appendix B and D). They were briefed about their task to inspect the measure's content validity relating to how well the items reflect rapport as we know it in theory and practice. The definition of rapport adhered in the current scale development was provided before allowing the experts to examine the items and provide feedback in relation to whether the items reflect the general, the theoretical, and the practical understanding of rapport-based strategies. A two-stage procedure was employed whereby: the experts (i) read through the items listed in an Excel file and made notes about any items they wished to discuss (e.g., items they disagree with, or have a concern about), and (ii) attended an online meeting to discuss the set of items in general, and any items they have concerns about by adding a note or a (x) in the column to the right of each item. Items were flagged if they felt that an item does not assess the definition of rapport adhered by this measure, or if the item was vague or ambiguous. Experts were informed that they did not need to flag or provide feedback on all items, just those which concerned them, which would then be further discussed in the second phase of the evaluation. The experts' annotated Excel files were returned to the lead researcher via email. Of note, one of the experts could not attend the focus groups and provided only feedback instead.

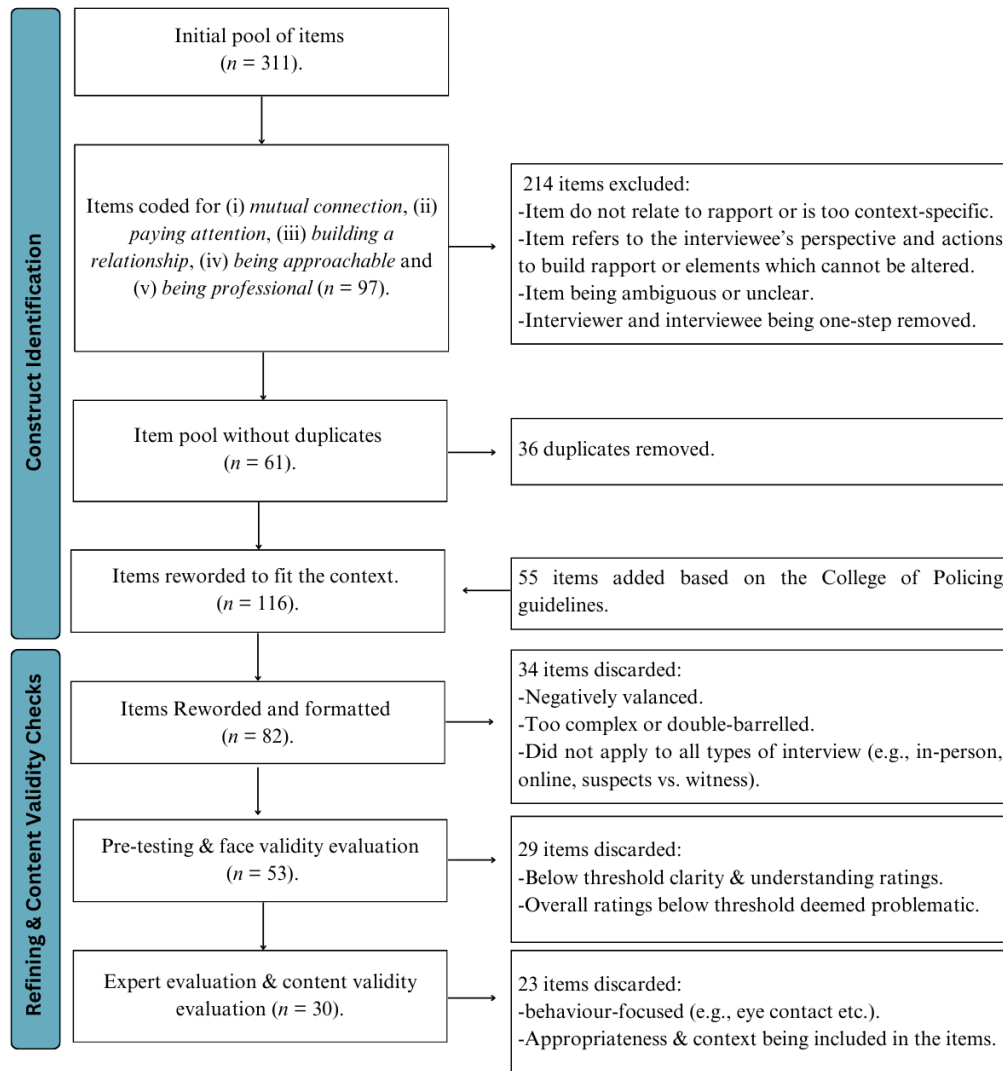
Five focus groups comprising 11 experts were then organised via Microsoft Teams whereby the feedback received from the experts was discussed during a session that lasted

approximately one hour. One focus group included four experts, another included three experts, and a third included two experts¹. Additionally, two focus groups were conducted individually with a single expert. A PowerPoint presentation was created and presented to summarise the items which had been flagged by the experts according to the theorised component of rapport they related to (see Appendix E). Items flagged based on a consensus (e.g., more than one expert flagged the item) were discussed in priority before addressing the remainder of the flagged items or comments included on their file. The focus group sessions were recorded, transcribed using Otter.ai (2024), an AI-based transcription tool, and analysed using Thematic Analysis (Braun & Clarke, 2006). The expert evaluation directly informed the alteration of the items and resulted in the modification and/or exclusion of flagged items. This process led to an exclusion of 23 items, providing the final 30-item prototype of the Rapport-Pro (see Appendix F). The overall development of the Rapport-Pro is summarised in Figure 2 and can be accessed in an excel file on OSF (see Appendix B).

¹ Due to other commitments and tight schedules, some of the focus groups had to be conducted individually.

Figure 2

The Development Process of the Rapport-Pro with Included and Excluded Items at each Stage of Development



Further, the expert evaluation resulted in an interesting discussion of the experts' perceptions of rapport in a professional setting. The Thematic Analysis yielded five overarching themes encapsulating the primary considerations in attempting to capture the essence of rapport: (i) the ideal rapport, (ii) context appropriateness, (iii) ambiguity and subjectivity of rapport, (iv) assessor's perception of rapport, and (v) the operationalisation of rapport. Each of the themes is described in detail in Table 5 with relevant quotes, confirming the findings of the review in Chapter 2 and suggesting that the Rapport-Pro is a promising

and comprehensive measure of rapport. The themes' coding scheme is provided in Appendix G and illustrated with an example of a coded transcript.

Primary Considerations

While discussing the items of the Rapport-Pro, experts provided insights on how the measure could be improved, but also discussed considerations to have when developing a measure to evaluate rapport. They shared their perceptions regarding the behavioural strategies and components making up rapport. Some felt the measure was comprehensive, while others preferred specific indicators of rapport, such as empathy or attentiveness. Although experts largely agreed on the components of rapport, they emphasised different strategies, reinforcing the findings from Chapter 2 that rapport is subjective and abstract, leading to various interpretations of what it entails. Experts also raised concerns about the appropriateness of certain behavioural indicators of rapport in specific situations. This suggests that while some strategies are effective, they are highly context-dependent and can backfire if misapplied. A one-size-fits-all approach is not suitable for rapport, and the inclusion of behavioural strategies should be approached with caution. A scale that is too specific might be seen as a tick-box exercise, undermining the goal of building genuine rapport. Conversely, overly general items can lead to ambiguity, as experts expressed uncertainty about the meaning of some items, which were too vague to provide clear guidance in practice. The subjective nature of the items was also a concern. While some experts questioned the relevance of certain components of rapport, such as professionalism, others found it to be an interesting addition that could provide further insights into rapport. They also argued that some items overlapped, making it difficult to distinguish between different components of rapport. Further, the perspective taken by the Rapport-Pro was debated; some experts felt that an observer might not accurately perceive rapport due to their lack of direct involvement in the interaction. However, a few experts considered having

multiple versions of the Rapport-Pro, including an observer perspective, to be a strength, especially given the lack of research on which perspective most accurately captures perceptions of rapport. Finally, the operationalization of rapport was discussed in terms of the practical application of items and strategies. While the Rapport-Pro is comprehensive, some items remain broad or abstract due to the lack of consensus on measures of rapport, as discussed in Chapter 2.

Table 5

Experts' Perceptions of the Primary Considerations when Attempting to Conceptualise and Assess Rapport

Subthemes	Meaning	Examples
Ideal Rapport	What works with rapport and which behavioural strategy experts believe rapport should encompass.	<p>“it’s very comprehensive, it is clearly based on an understanding of the current literature, which I think is really, really useful.” (DW)</p> <p>“I mean, there’s nothing wrong with, you know, if that happens in interview, but I don’t think it’s necessarily a good indicator of rapport. And it’s very difficult to judge because, you know, I’d rather say, getting along well, is that there is a coordinated relationship.” (WT)</p> <p>“The interviewer feeling with the person is very much for me what empathy is all about.” (LC)</p> <p>“You know, it’s about communication. And, you know, asking open-ended questions and allowing the person to talk rather than interrupting them. Indicators of reflective listening or minimal encouragers. Go on, tell me more about that. Those are all kinds of things that like, allow for the person to have that kind of sense of, of being heard, that’s obviously related to empathy. And then it’s all related to rapport of course, but like, I think a stronger push for communication indicators here is warranted in this paying attention to like, I liked that you pay attention” (CK)</p>
Context Appropriateness	The appropriateness of behavioural strategies of rapport and the barriers associated with building rapport.	<p>“I hear there’s an investigative rapport, you know, in the sense that, you know, that by being too close, that actually you you have to remember what the purpose of this interview is.” (DW)</p>

		<p>“So that’s important. I just again, I think that there is the danger by saying the interviewer understood how the interview was feeling. Because, again, you know, we’ve all had it, I’m sure the instance where somebody says, Oh, I understand how you’re feeling. And there’s no way that the person can understand how they’re feeling they can feel with you.” (LC)</p> <p>“We’ve all had interviews where you turn over somebody say, like, I understand how you’re feeling, and then the room explodes? Because they go, Oh, really? Do you? And it’s just like a disaster.” (WT)</p>
Ambiguity/ subjectivity	The inherent subjectivity and ambiguity associated with building rapport and its behavioural strategies.	<p>“I feel like this might be one that’s how to very hard for them to say so interviewe interviewer appeared to understand one another. So how is this catching by what behaviours? How do they understand each other? Is it a feeling that independent observers feels and so like, to help not like how, how, how would you externally manifest understanding one another? That makes sense?” (MN)</p> <p>“How important is professionalism, but I think you’ve lost nothing by having it in there for that question to be better resolved going forward. So whilst I think that if anything, is what I might consider the most atypical element, I think it’s cool that you’ve got it in there.” (LS)</p> <p>“...what I find confusing. Is that some aspects of rapport or some techniques, they’re like, you could put them in in one category and in the other as well. I mean, I don’t always see the difference between attention and and positivity component.” (AI)</p>
Assessor’s perception	The point of view which should be considered when assessing rapport.	<p>“It because a perception of its goals. It is. I mean, felt warm, when you mentioned felt rapport for yourself as an interviewer, interviewee that’s different in its makeup as to measuring perception of rapport, right? And as to which is more correct or which is more viable, which is I don’t know [...]” (MN)</p> <p>“I quite like the way that this is structured, in most of it is that most items refer to the interviewee and the interviewer, which means that you could easily do first person versions of this at any point by rotating the word interviewer with me for the interviewer, and</p>

		interview with me the interview. So I like how you have done this as a third party measure.” (LS)
		“Rapport in interview is you can’t do it by just observing the interviewer.” (WT)

Operationalisation	The practical realities of applying behavioural strategies of rapport.	<p>“Are the interviewer and interviewee getting along well, and took that appearing out? I think you still you still need to give them some guidance. Like I said, What does that look like, you know, not talking over each other turn taking, reflecting on topics and things like that. I think you’d have to bring in some criteria like that to nail down what that means.” (WT)</p> <p>“That seems to kind of be the difference between empathy, which is talked about kind of in that category and sympathy. So how do we it to me that that’s what it seems to be trying to tease apart here? And how is the interviewer showing sympathy? If that is relevant? Did they experience a similar event that they are trying to sympathise with? Or is it just empathy that they’re showing?” (KL)</p> <p>“We have these categories that don’t seem as broad, maybe on the surface, but there are so many things that make up these simple categories for coding, that all kind of play a role here.” (KL)</p>
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Summary of the Development Process

This chapter encompasses the three initial development phases of the Rapport-Pro. First, the rapport was defined, and existing measure, theories and reviews of rapport were used to generate a theoretically driven item pool ($n = 311$). Following a series of item-rewording steps, the item pool was further refined by assessing the face validity of the items through a pre-testing study refining the pool to 53 included items. Finally, an expert evaluation was conducted to further refine the measure and verify of the content validity of the measure, ensuring of the suitability of the Rapport-Pro’s theoretical underpinning, structure, and items. As a result, the first prototype of the Rapport-Pro was represented by a 30-item solution and theoretically synthesising measure suitable for further evaluation. Based on the best practice recommendations presented earlier, the measure remains to be

administered and evaluated according to key psychometric properties such as the reliability of the items, the theoretical and factorial structure using factor analysis and the validity of the Rapport-Pro in assessing rapport in professional contexts (e.g., Boateng et al., 2018; DeVellis & Thorpe, 2021). Chapter 4 builds on this chapter by completing the scale development process and establishing the psychometric properties of the Rapport-Pro. This includes conducting Confirmatory Factor Analysis, applying Item Response Theory, and evaluating internal consistency and concurrent validity, ultimately leading to the final prototype. While some measures pertaining to the concurrent validity or the ability of the Rapport-Pro to detect variation of rapport will be conducted in Chapter 4, the process of validation is completed in Chapter 5.

Chapter 4

Evaluation of the Rapport-Pro

Chapter Summary

This chapter furthers the development process of the Rapport-Pro by focusing on its psychometric properties and concurrent validity. Following established standards in scale development and validation, this chapter describes the first evaluation of the Rapport-Pro considering the (i) item reduction, (ii) extraction of factors, (iii) and by conducting tests of dimensionality, and (iv) reliability. In an online study, 172 participants rated their perception of the amount of rapport present in a series of videos depicting a dyadic professional interaction. Confirmatory factor analysis (CFA) of these ratings was conducted to refine the Rapport-Pro's prototype to a 26-item solution. Three factorial models were compared: the hypothesised correlated factor model, a unidimensional model, of rapport and a second-order model. The second-order model, which included the five components of rapport as second-order factors (mutual connection, paying attention, building a relationship, being approachable, and being professional), with rapport as the first-order factor, emerged as the best fit for the observed data. The discrimination index of the Item Response Theory (IRT) reinforced the reliability of the Rapport-Pro items by indicating strong discriminability between the items and the hypothesised components of rapport. The factorial structure of the Rapport-Pro was therefore confirmed and demonstrated excellent internal consistency. In addition, the Rapport-Pro successfully detected variation of rapport levels, suggesting good concurrent validity. These initial findings suggest that the Rapport-Pro is a promising tool as evidenced by its reliability and early signs of validity.

Introduction

As mentioned in Chapter 3, various resources are available to researchers regarding best practice recommendations in scale development and validation (Boateng et al., 2018; DeVellis & Thorpe, 2021). Recommended practices for scale development include several steps: (i) identifying the construct and generating an item pool, (ii) assessing content validity, (iii) administering the scale and pretesting the questions, (iv) refining the pool through item reduction, (v) extracting factors, and (vi) conducting tests of dimensionality, (vii) reliability, and (viii) validity. Best practice recommendations and standards in scale development and validation (AERA et al., 2014) facilitate the evaluation of a measure's psychometric properties by providing a clear framework according to each stage of the development process. Thus, it is advised to adhere to these standards at every phase of the test development process to guarantee the quality of development, as well as the interpretation and utilisation of test scores (Linn, 2011).

Further, Irwing and Hughes (2018) propose that in addition to assessing how well a newly developed measure represents the construct under investigation, initial assessments should address the accuracy (whether it accurately evaluates the construct under investigation) and the reliability (how effectively the items capture and measure the underlying construct) of the measure. Several possible techniques have been suggested as effective in evaluating the psychometric properties of a new measure, including CFA and IRT. However, any statistical model simply reflects an estimation of the underlying constructs and rarely represents an exact fit (MacCallum et al., 2012). Consequently, employing a combination of CFA and IRT is recommended to thoroughly explore these properties and ensure the development of a high-quality measure (Irving & Hughes, 2018).

As discussed in Chapter 3, existing scales purposefully developed to measure rapport in investigative contexts are all limited in relation to the best practice recommendations in

scale development and validation. In particular, psychometric evaluations of these measures have raised concerns, with some lacking evaluation altogether (see Collins & Carthy, 2018; Vallano & Schreiber Compo, 2011). While measures like ORBIT have applied CFA to demonstrate factorial validity, relying solely on CFA does not ensure reliable measurement (Irving & Hughes, 2018). Indeed, ORBIT's internal consistency has been consistently flagged as problematic (Kim et al., 2020; Surmon-Bohr et al., 2020). As highlighted in previous chapters, Duke et al.'s (2018a) measure shows attention to best practice recommendations by assessing construct and concurrent validity, yet their CFA results were inconclusive, suggesting limitations in their conceptualisation of rapport. Additionally, none of the measures have applied IRT, which has been recommended to complement CFA results and produce high-quality measures (Irving & Hughes, 2018). It is apparent, therefore, that there is a lack of reliable rapport measures developed and tested in accordance with best practice recommendations which directly demonstrate evidence of their effectiveness, validity, and quality.

Chapter 3 focused on the first three phases of recommended measure development process providing the first prototype of the Rapport-Pro based on a systematic approach ensuring the content validity of the items. The remaining phases relate to the measure's psychometric properties and validity evaluation which will be explored in the current and following chapter (Chapter 5), respectively. The current chapter adopts a quantitative design to evaluate the essential psychometric properties of the Rapport-Pro. The primary objectives were to provide evidence for the factorial structure, reliability, discriminability, and concurrent validity of the Rapport-Pro. These analyses are essential for completing the development process of the Rapport-Pro and offering insights aligning with methodological guidelines in scale development and validation (e.g., Boateng et al., 2018; Linn, 2011).

Methodology

Participants

A total of 223 participants took part in an online survey presented via Qualtrics. Participants were recruited using Prolific (www.prolific.com) and the research SONA system at Goldsmiths ($n = 128$, and 95 , respectively). Participants from Prolific received the equivalent of £6.47/hour for their participation while students at Goldsmiths received 2.5 research credits. Overall, 51 participants were excluded from the study due to either failing to complete the survey ($n = 13$) or failing to correctly answer the attention checks ($n = 34$). This resulted in a total of 172 participants who fully completed the study ($M_{age} = 33.57$, $SD = 14.93$), 65% ($n = 111$) recruited through Prolific and 35% ($n = 61$) from SONA. The sample consisted of 60.5% females ($n = 104$), 37.2% males ($n = 64$), and 1.7% who identified as non-binary, as a third gender, or preferred not to say ($n = 3$). Each of the 172 participants rated three investigative interviews, thus resulting in a total of 516 individual ratings of rapport. According to Tabachnick and Fidell (2014), factorial analysis requires between 200 and 500 data points, thus it was deemed to be a suitable sample size. Upon inspection of the data, there were seven (random) missing values. These remained in the dataset and were dealt with via listwise deletion, causing the dataset to range between 510 and 515 data points that were included in the analyses.

Materials

All materials used for this study can be found in Appendix H which detail the ethics documentation and the survey materials.

Measure

The Rapport-Pro's prototype comprised 30-items evaluating self-rated perceptions of rapport in an interaction by considering five main components: *mutual connection*, *paying*

attention, building a relationship, being approachable, and being professional. The measure² included items such as, “*The interviewer’s tone of voice was conversational*”, “*The interviewer adapted their communication to suit the interviewee*”, and “*There was a natural flow of conversation*”. See Appendix F for the full measure including all 30 items. Each item was scored using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), allowing for average scores to be generated for each of the five components of rapport as well as an overall rapport score. The measure was developed in Chapter 3 with a thorough examination of the content and face validity of the items. The reliability and factorial structure of the measure will be evaluated and reported in the results section of this chapter.

Videos

Six videos depicting an investigative interview conducted online via Teams were used as materials for the study (see Appendix H for links to the videos). These videos were recorded as part of a separate investigative interview training programme whereby students from Goldsmiths interviewed a peer to develop their interviewing skills. Of these videos, two were recorded before attending any training (baseline performance), and four were recorded after attending training sessions. These videos were then rated by six independent observers prior to the development of the Rapport-Pro. Thus, the 7-point Likert scale of rapport used originally in that study was kept including one item rating “*Extent to which the observer believed the interviewer developed rapport with the witness*” (1 = not at all to 7 = totally). The videos were selected based on the ratings of six independent observers on this item. Each video was rated independently by the observers who categorised observed rapport levels as low (around 1), moderate (between 2 and 3), or high (between 6 and 7). High agreement among the coders was indicated by intraclass correlations (ICC = 0.95, 95% CI [0.83, 0.99]).

² For the purpose of this thesis, only the Rapport-Pro: Observer was used, other versions of the measure were not tested.

Each video lasted approximately 10 minutes. Rather than asking participants to watch all six videos, they were divided into two sets, each containing three videos representing all rapport levels (low, moderate, and high). Although this did not represent a manipulation, participants were randomly assigned to one of these sets to mitigate potential biases arising from video selection or quality.

Procedure

Participants could access the study through an anonymous link shared either on Prolific or on the research SONA system at Goldsmiths. Upon accessing the study, participants were presented with information about the study, including an outline of the objectives and general procedure, after which those who wished to continue were prompted to record their consent to participate. Two attention check questions were then administered at different points during the survey to ensure participants' engagement. These attention checks were formatted according to Prolific's guidelines based on instructional manipulation checks such as *"Based on the text below, what would you say is your favourite drink? This is a simple question. When asked about your favourite drink, you need to select coffee so that we know you are paying attention."* Or *"Based on the text below, what colour is a lemon? The fresh lemon picked from a tree. Make sure to select red to show you are paying attention"*. Considering the sample size and the length of the questionnaire, participants were informed that the failure to complete accurately both attention checks would result in their participation being rejected as advised by Prolific (2024). Participants were then randomly allocated to a set of three videos, each representing varying levels of rapport between an interviewer and interviewee (low, moderate, and high). The order of the videos was randomised to prevent order effects. Participants were required to watch each video-recorded interview in its entirety before using the Rapport-Pro questionnaire to rate rapport in that specific interaction. To prevent participants from skipping the video without watching in full, the function to delay

skipping forward was utilised within Qualtrics. Participants were thanked for their time and a debrief was presented including the purpose of the study once all three videos had been watched and rated. Overall, the study lasted 30 to 45 minutes.

Results

Model Fit

The data were modelled using CFA on SPSS Amos 27 graphics. Assumptions were checked prior to the analysis including normality, linearity, presence of outliers, and missing data. Additionally, the assumption of sphericity was verified before running any of the Analyses of Variance (ANOVAs). The inter-item and item-total values of the Rapport-Pro were first examined before proceeding to a comparison of three models, evaluating each of them based on their correspondence between observed data and the data assumed by the model. As recommended, several fit indices were considered. The items' contributions to the Rapport-Pro were also examined by assessing the measure's internal consistency and conducting IRT using SPSS Statistics 28 and the Graded Response Model plugins of the packages ltm: An R Package for Latent Variable Modelling for Item Response Theory Analyses (Rizopoulos, 2007). Finally, the concurrent validity of the measure was assessed through one-way ANOVAs inspecting whether the items of the measure successfully detected the presence of rapport during the study.

Items' Contribution

In an initial step, a reliability analysis was conducted on each component of rapport to assess the inter-item and item-total values of the measure. The internal consistency for the scale was good ($\alpha = .986$). However, an inspection of the individual components of rapport indicated the reliability would increase slightly if four items were deleted³. Taking

³ The four items removed were as follows; "The interaction between the interviewer and interviewee was cooperative" (*mutual connection*, MC4), "The interviewer listened to what the interviewee had to say" (*paying*

into consideration that scales with many items tend to be more reliable with higher alpha values (DeVellis & Thorpe, 2021), and that redundancy of items within subscales can be problematic, a decision was made to remove the four items from the measure resulting in a 26-item solution ($\alpha = 0.987$).

Confirmatory Factor Analysis

To evaluate the goodness of fit of the Rapport-Pro, a Confirmatory Factor Analysis (CFA) was conducted using a maximum likelihood estimate on 510 ratings into a 5-factor solution including the 26 items loading either on *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional*. The results of the CFA are shown in Table 6. The Chi-square Goodness of Fit was considered unreliable as it is particularly sensitive to sample size and cannot always be a trusted indicator of model fit (Byrne, 2010). Therefore, other indices were also considered. The Root Mean Square Error of Approximation (RMSEA) is a popular index to assess goodness of fit and a value close to zero indicates a close fit. Values larger than zero, reaching 0.05 (Browne & Cudeck, 1993) or 0.06 (Hu & Bentler, 1999) are deemed good and acceptable, respectively. Others argue that a value of 0.08 or less can be considered as a fair fit (see MacCallum et al., 1996). Because RMSEA is influenced by sampling variation, it is also recommended to consider and report 95% confidence intervals, rather than a single estimate (Browne & Cudeck, 1993). Another commonly reported statistic is the Standardised Root Mean square Residual (SRMR) which, unlike RMSEA, is independent of the complexity of the model (Schuberth et al., 2023). Again, the model is a close fit when the SRMR value approaches 0, but cut-off values of .05 (Sivo et al., 2006) or 0.8 (Hu & Bentler, 1999) are recommended. Additionally, the Comparative Fit Index (CFI), which compares the proposed model with an independent

attention, PA1), “The interviewer appropriately asked how the interviewee would prefer to be addressed” (*building a relationship*, BR4), and “The interviewer was patient with the interviewee” (*being approachable* BA3).

model where the observed variables are uncorrelated, should be considered (Byrne, 2006). The higher values of CFI are indicative of a better model fit with a value of 0.90, an acceptable model fit and 0.95, a good model fit (Hu & Bentler, 1999). Tucker-Lewis index (TLI) is another index commonly used to compare model fit and can be interpreted similarly to CFI, a good model fit is demonstrated by the estimate approaching 1. While the interpretation of goodness-of-fit can be selected subjectively, most indices implying a good model fit usually reflects a reliable and conservative evaluation of model fit (Schreiber et al., 2006). Please refer to Table 6 for the Goodness of Fit statistics for each statistical model.

The results of the CFA suggested Model 1a was an appropriate fit (RMSEA = .067, 95% CI [.062, .072], SRMR = .024, CFI = .96, TLI = .96). The parameter estimates were then examined, and all found to be significant, further signifying a good-fitting model. Potential signs of misspecification were examined according to the standardised residual covariances. Byrne (2010) suggests that larger standardised residuals can indicate potential misspecification between two variables, referring to standardised residuals higher than 2.56 in absolute value as large. Whittaker (2012) suggests further investigations are necessary when standardised residuals are greater than 1.96. The standardised residual covariances and the modification indices highlighted three items which could be problematic. In fact, three of them displayed large modification indices and standardised covariances close or higher than 1.96 with one exceeding the 2.56 threshold.

In an informed exploratory approach, the model was revised by adding three correlation paths to avoid model misspecification and enhance model fit. Only sensible theoretically driven modifications were included to avoid over-specification of the model. The revised model resulted in an appropriate to close model fit (RMSEA = .057, 95% CI [.052, .062], SRMR = .020, CFI = .97, TLI = .97). The factor loading of the Model 1b, including the remaining 26 items, are presented in Table 7.

Table 6*Goodness-of-fit Statistics and Comparisons Between the Three Models of Professional Rapport*

Models	χ^2	Df	χ^2/df	CF I	TL I	SRM R	RMSE A	RMSE A 95% CI	ECV I	PNF I	$\Delta\chi^2$
Model 1a	946.71	289	3.28	.96	.96	.024	.067	.062- .072	2.21	.84	
Model 1b	761.98	286	2.70	.97	.97	.020	.057	.052- .062	1.86	.84	
Model 2	784.37	291	2.70	.97	.97	.020	.058	.053- .063	1.88	.86	
Model 3	917.77	296	3.10	.97	.96	.018	.064	.060- .069	2.12	.86	
Model1- Model2											22.39*
Model1- Model3											155.79*

Note. Model 1a = five-factor correlated models including 26 items; Model 1b = five-factor correlated models including 26 items including correlation paths; Model 2 = second-order model; Model 3 = unidimensional models * $p > 0.05$.

Table 7*Standardised Factor Loadings for the Three Models of the Rapport-Pro*

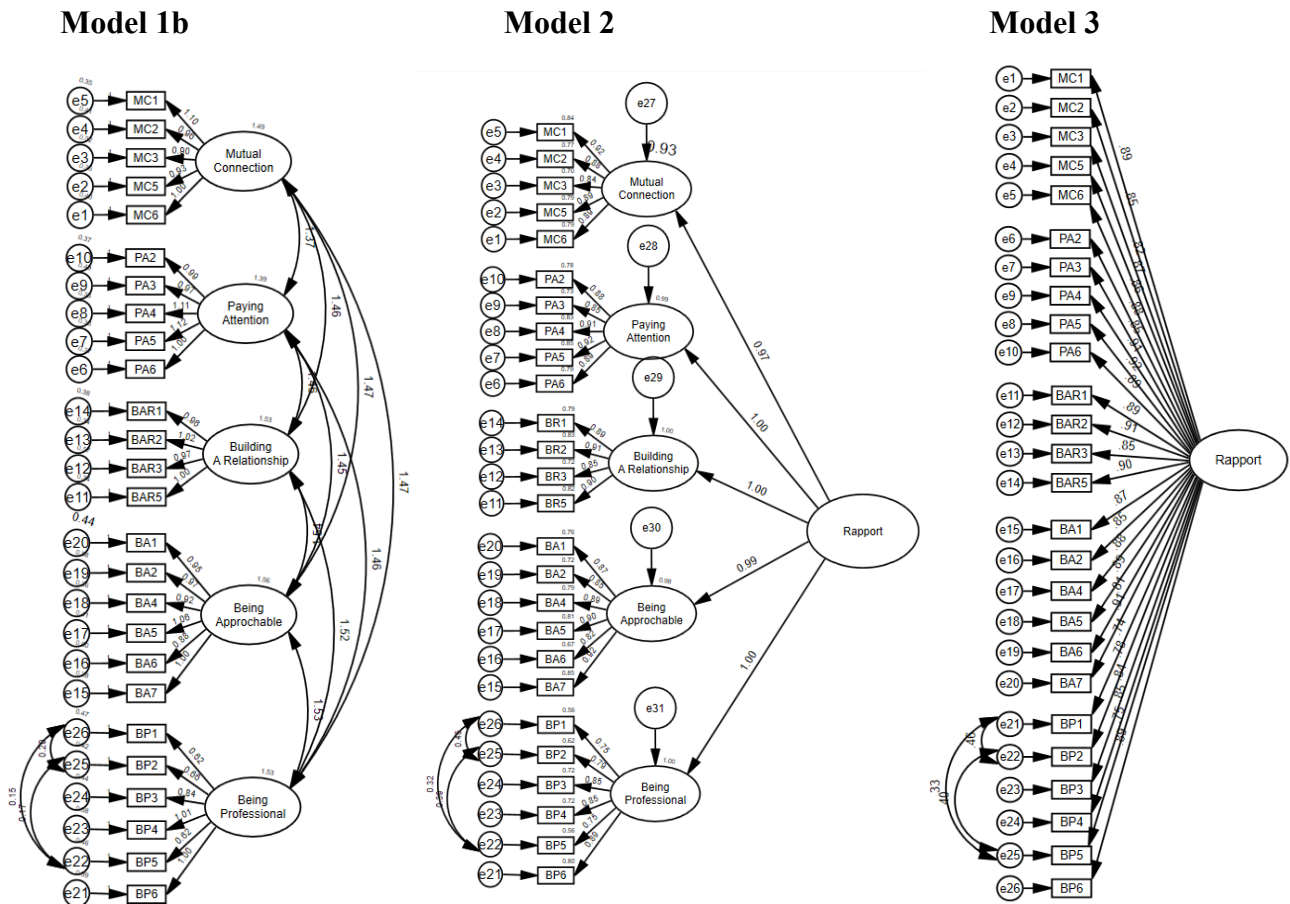
Factors	Loadings		
	Model 1b	Model 2	Model 3
Mutual Connection			
There was a natural flow of conversation between the interviewer and interviewee.	.916	.916	.889
The interviewer and interviewee were comfortable in each other's presence.	.879	.878	.855
The interaction between the interviewer and interviewee was appropriately paced.	.835	.835	.819
The interviewer and interviewee demonstrated an understanding of one another.	.888	.889	.872
The interviewer and the interviewee demonstrated an interest in one another.	.888	.888	.864
Paying Attention			
The interviewer was attentive to the interviewee.	.886	.885	.879
The interviewer took the time to consider what the interviewee said.	.853	.853	.847
The interviewer was appropriately empathetic towards the interviewee.	.911	.911	.908
The interviewer was engaged with the interviewee.	.923	.923	.920
The interviewer was responsive to what the interviewee said.	.889	.890	.887
Building a Relationship			
The interviewer made an effort to understand the interviewee.	.886	.887	.886
The interviewer took an interest in the interviewee.	.908	.909	.908
The interviewer tried to find common ground with the interviewee.	.846	.846	.847
The interviewer was sensitive to the wellbeing of the interviewee.	.904	.904	.903
Being Approachable			
The interviewer encouraged the interviewee to talk.	.874	.875	.867
The interviewer's tone of voice was conversational.	.847	.846	.846
The interviewer created a safe space for the interviewee to share information.	.887	.887	.884

The interviewer reassured the interviewee.	.901	.900	.893
The interviewer had an open body posture.	.818	.819	.814
The interviewer was supportive of the interviewee.	.921	.921	.913
Being Professional			
The interviewer treated the interviewee fairly.	.745	.745	.743
The interviewer was respectful towards the interviewee.	.787	.790	.784
The interviewer was sincere with the interviewee.	.843	.849	.841
The interviewer was confident when conducting the interview.	.855	.849	.850
The interviewer was polite towards the interviewee.	.749	.749	.745
The interviewer adapted their communication to suit the interviewee.	.892	.892	.892

Despite the close model fit, Model 1b suggested high covariances between the five factors. Some suggest that if factors overlap, a combination of them should be considered. If the fit of the unidimensional model is acceptable, it is usually favoured for its improvement in parsimony (Brown & Moore, 2012). As such, two additional models were considered: a unidimensional model of professional rapport (Model 3) and a second-order model (Model 2) including professional rapport as a higher order factor affecting *mutual connection*, *paying attention*, *building a relationship*, *being approachable* and *being professional* as second-order factors. Similarly to Model 1b, both the unidimensional and second order models were deemed to be good fits to the dataset (see Table 4) and displayed significant factor loadings (see Table 5). All models are represented in Figure 3.

Figure 3

The Three Models Compared in the CFA Using the 26 items of the Rapport-Pro and the Revised Structure



A Chi-square test of difference ($\Delta\chi^2$) was then used to compare which of the three models was the best to retain (correlated vs. second order, correlated vs. unidimensional). Chi-square differences reveal the correlated model is significant across comparisons, indicating its most appropriate fit for the current dataset. Thus, the unidimensional model was rejected. Though, the covariances are likely to affect the results of the measure. According to Fabrigar et al. (1999), when considering different models, it is more valuable to choose the model "...which constitutes a substantial improvement over a model with one fewer factor but for which a model with one more factor provides little if any improvement in fit", (p. 279). Despite the significance of Model 1b, the fit indices of Model 1b and Model 2 were

very close, suggesting a similar goodness-of-fit while increasing slightly its parsimony (PNFI = 0.86). Therefore, the second-order model was retained as it addressed both the goodness of fit and the five-factor covariances.

Items Analysis

Reliability.

A reliability analysis was conducted again to assess the reliability of the final model including 26 items. The reliability was assessed for the overall Rapport-Pro and for the individual second-order components. The results suggest that the Rapport-Pro presents excellent internal consistency overall and across components of rapport (alpha > .9).

Item Response Theory.

The contribution of each item to both the higher order latent variable (rapport) and the second order latent variables (*mutual connection, paying attention, building a relationship, being approachable, and being professional*) were examined considering the discrimination parameters for each item. Note that for clarity of reporting in the following section, the items have been labelled regarding their components of rapport and their order within that component as presented in Table 8 (e.g., *mutual connection* = MC, *paying attention* = PA, *building a relationship* = BR, *being approachable* = BA, *being professional* = BP). For the higher-order latent variable rapport, the discrimination parameters of the 26 items ranged from 1.79 (BA6) to 3.93 (PA5). Within individual components of rapport, the discrimination coefficients ranged from 2.53 (MC3) to 4.30 (MC1), 2.77 (PA4) to 4.40 (PA5), 3.83 (BR1) to 4.24 (BR2), 2.71 (BA6) to 4.23 (BA7), 2.74 (BP4) to 4.55 (BP2). According to Baker and Kim (2017), cut-offs are defined to assess slope parameter magnitudes in terms of their ability to differentiate levels of the construct with 0 = No ability; .01 to .04 = Very low; .35 to .64 = Low; .65 to 1.34 = Moderate; 1.35 to 1.69 = High; >1.70 = Very high. In this case, the

discrimination estimates were very high for all items across both the higher order and second order latent variables. In sum, the results demonstrate the items' ability to differentiate participants with differing scores on rapport; higher ratings on the Rapport-Pro are more likely to endorse higher levels of rapport, while lower ratings on the Rapport-Pro are more likely to endorse lower levels of rapport. The discrimination indices are provided in Table 8.

Table 8

Discrimination Parameters in the Second-Order Graded Response Model Including Rapport as a First Order Latent Factor and Mutual Connection, Paying Attention, Building a Relationship, Being Approachable and Being Professional as Second Order Latent Factors

Items	Discrimination parameters	
	Rapport	Second order factor
MC1. There was a natural flow of conversation between the interviewer and interviewee.	2.91	Mutual Connection 4.30
MC2. The interviewer and interviewee were comfortable in each other's presence.	2.73	3.36
MC3. The interaction between the interviewer and interviewee was appropriately paced.	2.16	2.53
MC5. The interviewer and interviewee demonstrated an understanding of one another.	3.68	2.86
MC6. The interviewer and the interviewee demonstrated an interest in one another.	2.59	3.65
PA2. The interviewer was attentive to the interviewee.	2.96	Paying Attention 4.35
PA3. The interviewer took the time to consider what the interviewee said.	2.58	3.18
PA4. The interviewer was appropriately empathetic towards the interviewee.	3.20	2.77
PA5. The interviewer was engaged with the interviewee.	3.93	4.40
PA6. The interviewer was responsive to what the interviewee said.	3.19	3.64
BR1. The interviewer made an effort to understand the interviewee.	2.90	Building a relationship 3.83
BR2. The interviewer took an interest in the interviewee.	2.85	4.24
BR3. The interviewer tried to find common ground with the interviewee.	2.38	4.03
BR5. The interviewer was sensitive to the wellbeing of the interviewee.	3.17	3.96
BA1. The interviewer encouraged the interviewee to talk.	3.11	Being approachable 4.11
BA2. The interviewer's tone of voice was conversational.	2.73	2.89

BA4. The interviewer created a safe space for the interviewee to share information.	3.01		3.29
BA5. The interviewer reassured the interviewee.	3.18		4.17
BA6. The interviewer had an open body posture.	1.79		2.71
BA7. The interviewer was supportive of the interviewee.	3.69		4.23
BP1. The interviewer treated the interviewee fairly.	2.58	Being professional	3.54
BP2. The interviewer was respectful towards the interviewee.	2.49		4.55
BP3. The interviewer was sincere with the interviewee.	2.58		3.83
BP4. The interviewer was confident when conducting the interview.	3.07		2.74
BP5. The interviewer was polite towards the interviewee.	2.27		3.73
BP6. The interviewer adapted their communication to suit the interviewee.	2.60		3.01

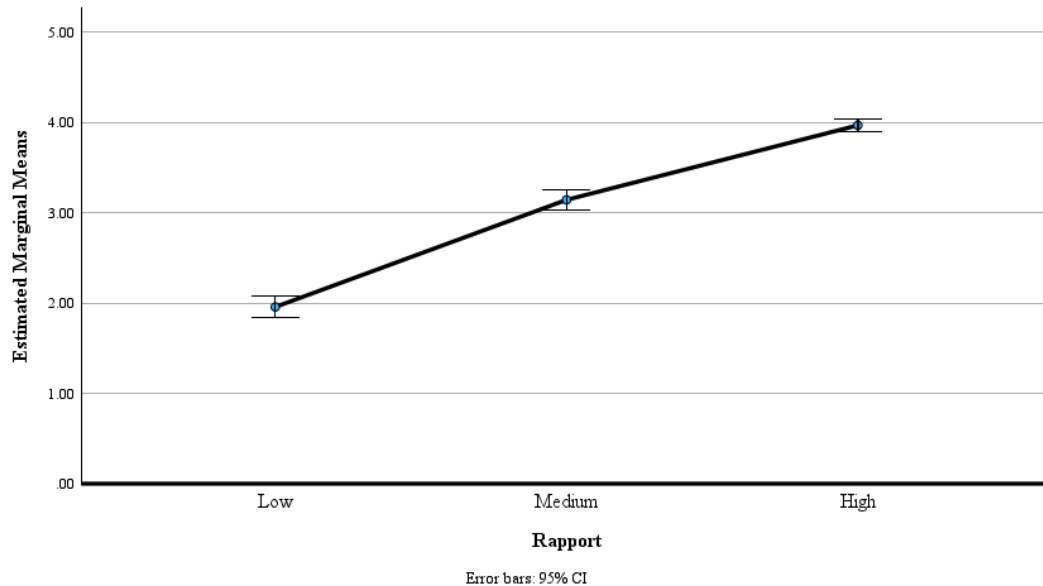
Concurrent Validity

Overall Rapport.

A one-way repeated measure ANOVA was conducted between the levels of rapport present in the videos (high vs. medium vs. low) on the overall rapport scores. The assumption of sphericity was violated as indicated by a significant Mauchly's test. Considering the Greenhouse-Geisser estimate of sphericity was above .75, the Huynh-Feldt correction was used. Results revealed a significant effect of the rapport conditions contributing to 73% of the variance, $F(1.83, 311.77) = 463.14, p < .001, \eta_p^2 = 0.73$. Post hoc analyses using Bonferroni corrections revealed that each condition differed significantly with one another, with the ratings of rapport gradually increasing as the rapport increased in the video (see Figure 4). Lower rapport ratings were found in the low rapport condition ($M = 2.32, SE = .07, p < .001$), followed by significant increases in the medium rapport condition ($M = 3.62, SE = .06, p < .001$), and in the high rapport condition ($M = 4.51, SE = .04, p < .001$). Therefore, the Rapport-Pro seemed to detect different nuances of rapport, indicating signs of concurrent validity.

Figure 4

The Estimated Marginal Means of the Rapport-Pro across Rapport Conditions



Components of Rapport.

Five one-way within participant ANOVAs were conducted to assess how individual components of rapport ratings were affected by the levels of rapport present in the videos (high vs. medium vs. low). As a result, a Bonferroni correction was applied on the alpha level ($p = 0.01$). The descriptive statistics are provided in Table 9. The results suggested a significant difference between the levels of rapport on each of the components of rapport, as follows; *mutual connection* $F(1.96, 335.42) = 382.99, p < .001, \eta_p^2 = .69$, *paying attention*, $F(1.83, 313.24) = 415.13, p = 1.03e-84, \eta_p^2 = .71$, *building a relationship*, $F(1.93, 329.73) = 375.67, p < .001, \eta_p^2 = .69$, *being approachable*, $F(1.88, 321.37) = 489.51, p < .001, \eta_p^2 = .74$, and *being professional*, $F(1.76, 298.54) = 333.55, p < .001, \eta_p^2 = .66$. Post Hoc analyses with Bonferroni corrections for each of the components revealed that the components were significant across all three rapport conditions, each condition (low, medium or high) differing

significantly from one another ($p < .001$). Overall, the average ratings of rapport increased as the rapport increased in the videos. Within each analysis, the effect sizes were moderate to large, with *being approachable* accounting for 74% of the variance in rapport, followed closely by *paying attention* (71%), *building a relationship* (69%), *mutual connection* (69%) and *being professional* (66%).

Table 9

The Mean and SE of the Average Scores for the Individual Components of Rapport According to the Level of Rapport Present in the Videos

	Low		Medium		High	
	M	SE	M	SE	M	SE
Mutual Connection	2.23	.069	3.34	.074	4.43	.044
Paying Attention	2.31	.075	3.78	.066	4.59	.042
Building a Relationship	2.16	.074	3.47	.071	4.46	.043
Being Approachable	2.13	.067	3.56	.065	4.48	.038
Being Professional	2.78	.065	3.92	.055	4.57	.040

Discussion

This chapter documents the development of the Rapport-Pro including five different components that have been reported to affect rapport within professional information-gathering contexts (see Abbe & Brandon, 2013; 2014; Gabbert et al., 2021; Tickle-Degnen & Rosenthal, 1990). In the first step, the factorial structure of the measure was examined to assess the suitability of the Rapport-Pro's structure with observed data. While the initial model appeared as a good fit, covariances among the five main components of rapport suggested other suitable models should be examined. Three different models were considered, all resulting in desirable psychometric properties: a correlated model, a second-order model, and a unidimensional model. Upon comparison, a second-order model was retained as the best possible fit for the data while also addressing the issue of covariances.

Previous literature has shown mixed results, with some arguing that rapport is multidimensional and consists of a range of components (e.g., Duke et al., 2018a; Gabbert et al., 2021; Tickle-Degnen & Rosenthal, 1990), while others suggesting that a unidimensional theoretical structure is more suitable, viewing rapport as a single factor (e.g., Bernieri et al., 1996). The current study strongly supports a middle ground: rapport is not solely unidimensional but also involves different components contributing to building rapport. Only one study has previously tested different models of rapport following a similar procedure to the approach taken in the current study (Magee, 2020). Likewise, their unidimensional model seemed to be the worse fit, discrediting rapport as a single-factor solution. Their correlated model of rapport was also preferred upon revision of the model. Although they contemplated a bifactor model, we were unable to implement it in our studies due to the presence of covariances between components of rapport. Bifactor modelling presupposes no correlations between factors, making it unsuitable for our dataset. Thus, the present findings and methodology appear to be consistent with previous research, suggesting that the second-order model of rapport is a sensible solution that provides factorial validity to the Rapport-Pro.

Examination of the internal consistency of the Rapport-Pro revealed high reliability of both the overall measure and each of its components. IRT was also employed to assess the psychometric properties of the measure and address critical aspects of scale development and validation, including item analysis, score reliability, quality, and validity concerns (AERA et al., 2014). The reliability of the Rapport-Pro received further support through the IRT analysis, revealing that each of the 26 items contributed effectively to both overall rapport and its specific components. Additionally, IRT demonstrated the measure's ability to distinguish between varying levels of rapport, underscoring its validity at the item level. However, IRT remains a relatively novel approach in rapport measurement and is not commonly utilised in existing measures. Among the prominent scales of rapport used in

investigative contexts, none have incorporated IRT, typically relying on measures such as interrater reliability (e.g., Alison et al., 2013; Collins & Carthy, 2018) or internal consistency assessment (e.g., Duke et al., 2018a) instead.

Additionally, the validity of the Rapport-Pro was investigated in a survey study aiming to observe whether the measure successfully detects rapport when manipulated across different conditions. This was supported by the results with participants' scores on the Rapport-Pro following a proportional increase with the levels of rapport present in the conditions. This adds to previous findings, highlighting the discriminatory ability of the measure to detect varying levels of rapport at both the item and scale levels. Boateng et al. (2018) suggest that in addition to predictive validity, testing at least two types of construct validity is associated with good validity. In investigative information-gathering contexts, only a limited number of studies have explored different types of validity testing, with Duke et al. (2018a) providing the only measure to demonstrate concurrent and construct validity. While the presence of concurrent validity in our study is promising, further validation efforts are necessary, including replication of current findings and assessment of at least the construct validity of the Rapport-Pro. It is important to note that the validation process is gradual and ongoing, requiring the application and examination of the Rapport-Pro across diverse contexts to achieve comprehensive validation. In sum, validity testing is considered to be a gradual process rather than a tick-box exercise in which the Rapport-Pro must be applied and examined across different contexts in order to be fully validated.

Limitations

The findings of this study must be considered in light of its limitations. First, no differentiation or comparisons between the five components of rapport were conducted because of the covariances between the five main factors. This can be explained by the

manipulation of the study being videos recorded in a previous study exploring the effect of training on rapport skills. Our study included at least two post-training videos out of three in each set whereby participants were informed of and instructed to apply key rapport-building behaviours. Though, very little attention has been allocated to the effect of training on rapport skills. So far, only one study suggests an increase in rapport ratings collected from the interviewees following training on a rapport-based model of interviewing (Brimbal et al., 2021). Therefore, the presence of training might affect the relationships between the five components of rapport by increasing participants' ratings for each of these components. Further, those who viewed the videos were recruited at random and did not receive any training on how to build rapport appropriately. Research is yet to explore any differences in rapport ratings between novice and trained participants. This adds to the lack of research considering individual differences in building rapport abilities, disregarding the impact of both natural abilities and social deficits on the ratings and training rapport strategies. More research is warranted to understand how individual differences affect the evaluation and training of rapport strategies.

Second, the rapport manipulation related to an online interaction between students trained to build rapport. An interview relies on a dynamic interpersonal process which cannot always be picked up by a video (such as the non-verbal behavioural cues). For instance, Weller (2017) reported that non-verbal gestures were limited even in good quality video calls as a result of restricted views of headshots. The participants in the video were also aware they were taking part in a role-play exercise, reducing the stake of the interview taking place and impacting the ecological validity of the study. That said, while some researchers suggest that ratings of rapport can vary across contexts, with higher rapport ratings in face-to-face than in remote interviews (Hoogesteyn et al., 2023), many studies have been successful in demonstrating that rapport can be built online (Dando et al., 2023; Nash et al., 2014; Nash et

al., 2020; Sun, 2014). Thus, it is sensible to suggest that the benefits of the Rapport-Pro should be replicated using different rapport manipulations and in-person interviews.

A third potential limitation is that the Rapport-Pro encompasses three versions: the Rapport-Pro: Interviewer, Interviewee, and Observer. The measure used in the current study focused on an observer rating the presence of rapport in an interaction, of which the interviewer and interviewee versions are yet to be evaluated. Experts in the scale evaluation commented that there is a notable difference between experiencing and witnessing rapport, arguing that the observer might miss significant non-verbal social cues. Very little research has considered different assessors' perspectives, although Weiher's (2020) research suggests that there is no correlation between ratings of rapport from an interviewee and an interviewer. Richardson and Nash (2022) support this finding by comparing different assessors' self-reported rapport ratings, finding that interviewers' ratings do not correlate with other assessors, suggesting that interviewers' ability to estimate their success in building rapport is compromised due to the competing cognitive demands experienced while managing an interview. Thus, the complexity of a task is likely to prevent an individual from accurately self-reflecting on their own expertise (Dunning et al., 2003). Based on a meta-analysis, evidence suggests this may be due to a lack of insight into their own errors rather than inaccurate assessments of their peers which, in turn, leads to overestimating their own performance (Ehrlinger et al., 2008). Recent research also suggests that focusing on an observer's perspective may provide the most reliable and valid rapport ratings which correlates with self-reported measures of rapport (Magee, 2018). More research is clearly needed to understand how an individual's role in an interview can influence their rapport ratings, and which perspective is most closely related to the interviewee's feeling of rapport.

Conclusion

In conclusion, this chapter focused on the development and evaluation of the Rapport-Pro: Observer, offering a multicomponent approach to rapport that provides interviewers with a toolkit of interpersonal strategies aimed at establishing a connection with the interviewee. The Rapport-Pro was derived from a synthesis of available measure of rapport applied to a theoretical framework encompassing current theories and reviews of rapport across professional settings. Findings presented in the current chapter supported the factorial validity of the Rapport-Pro. Tests of concurrent validity confirmed the Rapport-Pro's capability to detect rapport across different conditions. Internal consistency analysis and IRT further supported the reliability and validity of the Rapport-Pro, demonstrating its ability to effectively distinguish between varying levels of rapport. As a whole, the Rapport-Pro offers a promising tool for assessing rapport in professional interactions, providing valuable insights into its dynamics, and contributing to the advancement of rapport research. Continued validation efforts and exploration of individual differences in rapport measures are warranted to enhance the utility and applicability of the Rapport-Pro in practice. This is further discussed in Chapter 5, which complements the current findings by providing additional evidence of the validity of the Rapport-Pro through concurrent and construct validity and exploring how individual components interact to build overall rapport.

Chapter 5

Validation of the Rapport-Pro for Investigative Information-Gathering Contexts

Chapter Summary

The current chapter aims to further validate the Rapport-Pro as a tool for assessing professional rapport by seeking to replicate and extend the findings of Study 1 presented in Chapter 4. Study 2 further examines factorial and concurrent validity. Additionally, it aims to assess the construct validity of the Rapport-Pro by examining its alignment with related constructs such as 'Active Listening', 'Trust', and 'Expertise' through convergent and discriminant validity checks. In Study 3 further exploration of the concurrent validity of the Rapport-Pro is conducted, utilising varied manipulations to assess its sensitivity to different rapport-building strategies. This study also explores the interactions between each component of rapport and their collective contribution to overall perceptions of rapport. The successful replication of evidence supporting factorial and concurrent validity from Chapter 4 attests to the stability and effectiveness of the Rapport-Pro in detecting variations in rapport. Study 3 provides insights into the complexities of rapport dynamics and emphasises the critical role of key components of rapport in fostering positive interactions in professional settings. These findings strengthen our understanding of rapport assessment and reinforce the Rapport-Pro as a reliable tool for evaluating rapport. With evidence of factorial, construct, and concurrent validity, the Rapport-Pro emerges as a robust instrument for assessing rapport in various professional information-gathering contexts.

Introduction

As a reminder, various best practices in scale development and validation (Boateng et al., 2018; DeVellis & Thorpe, 2021) recommend that measures need to (i) identify the construct and generate an item pool, (ii) assess the content validity, (iii) administer the scale and pretest the questions, (iv) refine the pool through item reduction, (v) extract factors, and (vi) conduct tests of dimensionality, (vii) reliability, and (viii) validity. Although previous chapters allowed for a discussion of these steps, the quality of the psychometric properties of a measure is often related to the quantity rather than the quality of evidence supporting the validity of a measure (Cizek et al., 2008). Thus, the current chapter seeks to replicate the findings from Study 1, presented in Chapter 4, further exploring the factorial validity (step viii) and reliability (step vii) of the Rapport-Pro to provide a comprehensive examination of the measure's effectiveness.

Validity assesses whether the measure accurately captures the intended construct and whether it is useful for future decision-making (Hughes, 2018). This can become challenging when the construct of interest is not always directly observable, like rapport. Therefore, it is recommended to identify behaviours relevant to the target construct and deduce from these observations the presence and characteristics of underlying construct/s (Borsboom et al., 2003). Within the context of building rapport, there has been extensive research on identifying behavioural correlates of rapport (e.g., Abbe & Brandon, 2013; 2014; Gabbert et al., 2021). However, there is still a relative lack of exploration into the underlying constructs and theories; in other words, how and why such behaviours relate to rapport. For example, Vallano and Schreiber Compo's (2011) questionnaire contains items about key rapport-relevant behaviours without directly inferring theoretically how each of these behaviours contributes to building rapport. Conversely, Collins and Carthy (2018) and Alison et al. (2013) have relied on available theories of rapport, based either on naturally emerging rapport

or in counselling contexts respectively, but these researchers provide little information regarding how their measures' subcomponents interact to establish rapport. Duke et al.'s (2018a) measure is more 'holistic' in that it draws upon relevant theories to form a multi-dimensional approach to rapport. For example, they incorporate Strong's (1968) theory of therapeutic alliance, which includes elements of 'Trustworthiness', 'Expertise', and 'Warmth', along with theories of similarity (Byrne, 1962) and other concepts found to be related to therapeutic alliance, such as respect (Rogers, 1957). However, the measure does not explicitly indicate how each aspect contributes to building rapport. As a result, it is challenging for measures to establish validity if (i) their theoretical foundations are not robust and (ii) the dynamics of their constructs are not clear, especially when the constructs of interest suffer from disparities in definition and conceptualisation, as does rapport. This might explain (at least in part) why only a small minority of rapport measures (12.13%) have been validated (as reported in Chapter 1).

According to current standards for educational and psychological testing, validity is described as the "degree to which evidence and theory support the interpretation of test scores of proposed tests" (AERA, APA, NCME, 2014, p. 11). This definition highlights the importance of accumulating evidence to establish a strong foundation for the proposed interpretations of the measure. While validity is typically viewed as a unified concept, available standards (e.g., AERA, APA, NCME, 2014) propose that it can be demonstrated through five distinct types of evidence: (i) content representativeness (e.g., content validity), (ii) response processes (e.g., cognitive processes during item responding), (iii) relationships with other variables (e.g., convergent, discriminant, concurrent, and predictive validity), (iv) structure (e.g., factor structure), and (v) evidence based on consequences (e.g., the test is unbiased and fair). Boateng (2018) further argues that in addition to concurrent validity, at least two types of construct validity are necessary. However, the issue of demonstrating

validity has been a subject of extensive debate, resulting in various interpretations and approaches (Cizek, 2008; 2010; Newton, 2012; Newton & Shaw, 2013). In response to this debate, Hughes (2018) proposed the ‘Accuracy and Appropriateness Model’ which integrates different forms of validity testing suggested by current standards and addresses discrepancies, where these arise. According to this model, validity requires at least two types of evidence, (i) assessing the accuracy of the measure by directly examining its nature (including response processes, content representativeness, and structure), and (ii) establishing the appropriateness of the measure via theory testing and decision making (e.g., including relationships with other variables, consequences and fairness, and feasibility concerns). Therefore, this model will be applied across this chapter, aiming to provide different types of evidence for both the accuracy and appropriateness of the Rapport-Pro.

When evaluating the four measures of rapport developed specifically for use within investigative contexts with reference to best-practice approaches to validity testing outlined above, each has limitations. Neither Collins and Carthy (2018) nor Vallano and Schreiber Compo (2011) took steps to validate their measure. Alison et al. (2013) focused on examining the factorial structure of their measure (ORBIT) and did not provide different types of evidence to evaluate the validity. Further, Alison et al.’s ORBIT model has often been critiqued for its complexities in terms of training (Alison et al., 2020). Thus, the feasibility of the measure in practice has been overlooked despite advice suggesting that the cost, access, time, and reactions to newly developed measures need to be taken in consideration (see Brunel & Py, 2013; Giles et al., 2021). Only the measure of rapport developed by Duke et al. (2018a) provides evidence of validity pertaining to accuracy (factorial structure) and appropriateness (construct validity). However, validity could be questioned because of the sample used to evaluate the content representativeness of the measure, and their difficulties establishing a reliable factorial structure. Overall, a controversial (but reasonable) conclusion

is that the measures of rapport evaluated above do not provide sufficient evidence to demonstrate their ability to assess rapport. Therefore, there is a need to develop a new rapport measure for use in professional contexts that adheres to best practice standards in scale development, validation, and contemporary models of validity, and that incorporates various types of evidence to support both the accuracy and appropriateness of the measure.

The research presented in the current chapter aims to further evaluate the Rapport-Pro. The stance taken is that validity should be considered as a continuum, requiring ongoing evaluations across several studies to assess the accuracy and appropriateness of the measure. For instance, the evidence of concurrent and factorial validity obtained in Chapter 4 needs replication. The objectives are to demonstrate the stability, reliability, and validity (accuracy and appropriateness) of the Rapport-Pro across two main studies. Study 2 aims to replicate the outcomes of Study 1, thereby confirming the stability of the Rapport-Pro in terms of factorial and concurrent validity. In addition, the study seeks to evaluate the construct validity of the measure by examining its convergent and discriminant validity using both similar and dissimilar constructs to rapport. It is hypothesised that the Rapport-Pro will exhibit positive correlations with similar constructs (e.g., ‘Rapport’, ‘Active Listening’, ‘Trust’, ‘Expertise’, ‘Serenity’) while demonstrating weak to negligible correlations with dissimilar constructs (e.g., ‘Hostility’, ‘Cultural Similarity’). In Study 3, the concurrent validity of the Rapport-Pro is reassessed using varied manipulations to explore the connections between each first-order factor and its specific impact on rapport. The hypothesis predicts that the Rapport-Pro will successfully detect variation of rapport, in line with the findings of Study 2. Last, it is hypothesised that there will be differences in how individual rapport components influence Rapport-Pro ratings and that combining these components will yield the highest ratings.

Study 2: Methodology

Design

The current study used both a correlational and experimental design to validate the Rapport-Pro by assessing construct validity and replicating previous findings from the scale development study. An online survey was conducted to assess the relationship between the Rapport-Pro and several similar or dissimilar constructs including 'Rapport', 'Trust', 'Expertise', 'Active Listening', 'Attentiveness', 'Serenity', and 'Hostility', 'Cultural Similarity', and 'Commitment to Share'. Additionally, a one-way between subject design was adopted to manipulate the presence of rapport in three conditions (low, medium, and high rapport).

Participants

A total of 404 participants were recruited via Prolific (www.prolific.com). The sample size was selected on the same basis as in Study 1 (Chapter 4) to fit the requirements of sample size suitable for a replication of factor analysis. Four participants failed at least two of the attention checks, resulting in their participation being rejected. There was only one missing value, resulting in the exclusion of the participant from the dataset. Overall, 399 valid cases were used in the analyses. Participants were between 18 and 79 years old ($M_{age} = 44.75$, $SD = 14.61$), and 50.6% ($n = 202$) of the sample were male, 48.4% ($n = 193$) were female, 0.8% ($n = 3$) identified as non-binary or third gender, and 0.1% ($n = 1$) preferred not to say. Of those, 33.8% ($n = 135$) were allocated to the low rapport condition, 33.3% ($n = 133$) were allocated to the medium rapport condition and 32.8% ($n = 131$) were allocated to the high rapport condition. Participants were also randomly allocated to two different rapport questionnaires previously published and employed in the literature. Here, 49.6% ($n = 198$)

completed Duke et al.'s (2018a) measure of rapport and 50.4% ($n = 201$) completed Vallano and Schreiber Compo's (2011) measure.

Materials

Videos

One of the sets of three videos used in Study 1 was used to depict an interaction between an interviewer and interviewee (See Appendix I). These videos were recorded as part of a separate training programme whereby students from Goldsmiths took part in a study assessing the effect of training on rapport building skills. The videos were recorded pre-training ($n = 1$), and post-training ($n = 2$). The presence of rapport was also rated by six independent observers (ICC = 0.95, 95% CI [0.83, 0.99]). Based on the overall observers' rapport ratings defined on either as low (ranged around 1), moderate (ranged between 2 and 3) or high (ranged between 6 and 7). The low rapport videos were recorded pre-training whilst the medium and high rapport conditions were recorded post-training. Participants were randomly allocated to one video representing either the low, medium, or high rapport condition. Each of the three videos lasted less than 10 minutes.

Measures

To examine construct validity, it was necessary to compare the Rapport-Pro to other similar and dissimilar constructs. Thus, in addition to the Rapport-Pro, five other measures were included: The Rapport Scale for Investigative Interviews and Interrogation, interviewee Version' (Duke et al., 2018), The Interviewer and Interaction Questionnaire (Vallano & Schreiber Compo, 2015), The Active Listening Observation Scale (Fassaert et al., 2007), The Celebrity Endorsers' Perceived Trust and 'Expertise' Scales (Ohanian, 1990), and the PANAS-X (Watson & Clark, 1994). Of these, the Interviewer and Interaction Questionnaire, the Active Listening Observation Scale, and the Celebrity Endorsers' Perceived Trust and

'Expertise' Scales were previously used by Duke et al. (2018a) to validate their Rapport Scales for Investigative Interviews and Interrogation. The PANAS-X was used by Oostinga et al. (2018) to examine correlates of rapport. Appendix I presents the ethics documentation and the breakdown of the survey including all the materials.

The Rapport-Pro: Observer (Brouillard, Gabbert, & Scott, Under Review).

The Rapport-Pro is a 26-item measure which aims to evaluate the presence of rapport in an interaction by assessing five main components: *mutual connection* (5 items), *paying attention* (5 items), *building a relationship* (4 items), *being approachable* (6 items), and *being professional* (6 items) (see Appendix F). The observer version of the Rapport-Pro measure was used including items such as "*There was a natural flow of conversation*", "*The interviewer's tone of voice was conversational*", and "*The interviewer adapted their communication to suit the interviewee.*" Each item is rated on a 5-point Likert scale ranging from 1 strongly disagree to 5 strongly agree. Average scores can be generated for overall rapport, as well as for each of the five components of rapport. The results of Study 1 suggest that the Rapport-Pro is reliable measure (Cronbach's alpha: Overall Rapport = .98, *mutual connection* = .89, *paying attention* = .93, *building a relationship* = .90, *being approachable* = .92, *being professional* = .88).

The Rapport Scales for Investigative Interviews and Interrogations - interviewee version (RS3I) (Duke et al., 2018).

The RS3I is a 21-item self-report questionnaire examining the examinee's perception of rapport during an investigative interview by addressing specific aspects of rapport: the interviewer's Attentiveness (4 items), 'Trust/ Respect'(4 items), 'Expertise' (4 items), 'Cultural Similarity' (3 items), and 'Connected Flow' (3 items). It also includes a sixth subscale assessing 'Commitment to Share' (3 items) which is said to not measure rapport but

the interviewee's motivation and cooperation. Each item is rated on a 5-point Likert scale ranging from 1 strongly disagree to 5 strongly agree. Average scores were generated for overall rapport scores and for each aspect of rapport. This is the only validated scale of rapport so far as its psychometric suggests good construct and concurrent validity as well as internal reliability (Duke et al., 2018). The reliability of the measure was assessed with the current sample and revealed good internal reliability overall (Cronbach's alpha = .95).

The Interviewer and Interaction Questionnaire (Vallano & Schreiber Compo, 2011).

The Interviewer and Interaction Questionnaire is derived from Bernieri et al. (1996) and consists of 27 rapport characteristics divided into two subscales: nine items relate to the interviewer (e.g., examining the interviewee's perceptions of rapport with the interviewer based on the interviewer's effort to build rapport), and 18 items relate to the interaction (e.g., examining the interviewee's perception of the quality of the interaction with the interviewer). Each item is rated on a 7-point Likert scale indicating the presence or absence of the characteristics. For example, it includes rapport-based characteristics such as friendliness (ranging from 1 not friendly to 7 very friendly) or positive (ranging from 1 not positive to 7 very positive). The scale also includes 10 negatively valenced items (e.g., awkward) which require reverse scoring. In the current study, average scores were generated for the overall amount of rapport experienced by the interviewee and for each subscale. While the psychometric properties of the scale are not reported by Vallano and Schreiber Compo (2011), some studies have found the measure to be reliable (Cronbach's Alpha between .77 to .96; Richardson & Nash, 2022). However, others have excluded the questionnaire entirely for a lack of internal consistency (Cronbach's Alpha = .52; Duke et al., 2018a). In the current study, the measure had good internal consistency (Cronbach's alpha, overall = .97, interviewer questionnaire = .93; interaction questionnaire = .95).

The ‘Active Listening’ Observation Scale (Fassaert et al., 2007).

The Active Listening Observation Scale (ALOS) is a 7-item scale assessing active listening in a professional context from an observer’s point of view (i.e., patient-doctor consultation). Each item is rated on a 5-point Likert scale ranging from 1 never to 5 always. Averaged scores indicate the extent to which active listening skills were demonstrated by the professional. For use within the current study, it was necessary to slightly adjust the items to fit the context of an investigative interview. An examination of the psychometric properties of the scale suggests that ALOS is validated to some extent with some signs of convergent validity and good internal consistency (Cronbach’s Alpha = .84; Fasseart et al., 2007). This is confirmed by the findings of the current study (Cronbach’s alpha = .90).

The Celebrity Endorsers’ Perceived ‘Trust’ and ‘Expertise’ Scales (Ohanian, 1990).

The Celebrity Endorsers’ Perceived Trust and ‘Expertise’ Scales includes two five-item measures exploring the perception of ‘Trust’ and ‘Expertise’ of celebrities who endorse products. In total the 10 items are measured on a semantic differential scale including 7-points including a continuum for each item. For example, items in relation to ‘Trust’ include “*Unreliable-Reliable*”, and “*Dishonest-Honest*”. Items relating to ‘Expertise’ include “*Unqualified-Qualified*”, and “*Not an expert-Expert*”. Average scores can be computed for ‘Trust’ and ‘Expertise’ respectively. Both scales were validated by considering their factorial validity, convergent, discriminant, and predictive validity. Ohanian (1990) reports that internal reliability (Cronbach’s alpha) for each subscale was greater than 0.80. This was replicated in the current study (alpha ‘Trust’ = .90, alpha ‘Expertise’ = .97).

The Positive Affect Negative Affect Scale, 'Hostility', 'Attentiveness', and 'Serenity' Scales (Watson & Clark 1994).

The Positive Affect Negative Affect Scale (PANAS-x) is a 60-item scale assessing 11 specific emotional states: 'Fear', 'Sadness', 'Guilt', 'Hostility', 'Shyness', 'Fatigue', 'Surprise', 'Joviality', 'Self-Assurance', 'Attentiveness', and 'Serenity'. In the current study, only three subscales were used: 'Hostility' (6 items), 'Attentiveness' (4 items), and 'Serenity' (3 items). Each subscale relates to a particular emotional state, with "*anger*" and "*irritability*" being associated with 'Hostility', "*alert*" and "*concentrating*" for 'Attentiveness', and "*calm*" and "*relaxed*" for 'Serenity'. Each item is rated on a 5-point Likert scale whereby participants are asked to evaluate to what extent they felt this way over the past few weeks ranging from 1 not at all to 5 extremely. In the current study, the instruction was modified to gather participants' perceptions of the emotional states of the parties involved in the interaction viewed in the videos. Average scores are computed for each subscale. The PANAS-x has been reported as a reliable (Cronbach's alpha between .83 to .90) and valid measure, with good factorial and construct validity (Watson & Clark, 1994). All the subscales were found to be reliable in the current study ('Hostility' alpha = .78, 'Attentiveness' alpha = .86, 'Serenity' alpha = .88).

Procedure

Participants could access the study through an anonymous link shared either on Prolific. Upon accessing the survey, participants were presented with information about the study, including an outline of the objectives and general procedure. As with Study 1, those who consented to participate were randomly allocated to one of the three videos to watch, each one representing varying levels of rapport between a trainee interviewer and an interviewee (low, moderate, or high). Participants were required to watch each video-

recorded interview in its entirety before using the Rapport-Pro questionnaire to rate the rapport they felt was present during the interview they had just watched. Considering experimental fatigue and the number of questions included in the survey, the participants were then randomly presented with a published rapport questionnaire, either the RS3I (Duke et al., 2018) or the Interviewer and Interaction questionnaire (Vallano & Schreiber Compo, 2011). All participants then completed the remaining measures of ‘Hostility’, ‘Active Listening’, ‘Serenity’, ‘Trust’, ‘Expertise’, and ‘Attentiveness’, the order of which were randomly presented. The two same attention check questions administered in Study 1 (Chapter 4) were used again to ensure participants’ engagement informing participants that the failure to complete accurately both attention checks would result in their participation being rejected as advised by Prolific (2024). Due to the length of the questionnaire a third attention check was included, using a non-sensical term: *“I am interested by pursuing a degree in parabanjology. Pick strongly agree to show you are paying attention.”*. To prevent participants from skipping the video without watching in full, the function to delay skipping forward was utilised within Qualtrics. Once the participants had watched and rated the video, they were asked to provide demographic details before being thanked and debriefed about the purpose of the study. Overall, the study lasted 20 to 35 minutes.

Results

Assumptions of ANOVA and factor analysis were checked prior to the analysis including normality, linearity, presence of outliers, and missing data. Assumptions of ANOVA were also examined, suggesting heterogeneity of variance was present in the data. However, this was disregarded considering ANOVA is robust to this kind of violation when group sizes are sufficient and equal across conditions (Tabachnick & Fidell, 2014).

Confirmatory Factor Analysis

The second-order model of the Rapport-Pro was subjected to a Confirmatory Factor Analysis (CFA) to replicate the factorial structure previously found in the scale development process. A model including rapport as a second-order factor and *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional* as first-order factors were assessed using the 399 ratings. To evaluate the Goodness of Fit of the Rapport-Pro, the Chi-square Goodness of Fit was deemed unreliable (Byrne, 2010) and thus was complemented by other indices such as The Root Mean Square Error of Approximation (RMSEA) and its 95% Confidence Intervals, the Standardised Root Mean Square Residual (SRMR), the Comparative Fit Index (CFI) and the Tucker-Lewis index (TLI). The result of the CFA replicates previous findings, thus confirming that the model is an appropriate fit to the observed data, $\chi^2(291) = 682.19$, $p < .001$, RMSEA = .058, 95% CI [.052, .064], SRMR = .030, CFI = .96, TLI = .96. The parameter estimates were then examined and revealed all to be significant, further signifying a good-fitting model. Overall, the model appears to be stable across time. The standardised factor loadings for each of the 26 items are presented in Table 10.

Table 10

Standardised Factor Loadings for the Second-Order Model of the Rapport-Pro

Factors	Loadings Second-order model
Mutual Connection	
There was a natural flow of conversation between the interviewer and interviewee.	0.831
The interviewer and interviewee were comfortable in each other's presence.	0.775
The interaction between the interviewer and interviewee was appropriately paced.	0.747
The interviewer and interviewee demonstrated an understanding of one another.	0.821
The interviewer and the interviewee demonstrated an interest in one another.	0.791
Paying Attention	
The interviewer was attentive to the interviewee.	0.860
The interviewer took the time to consider what the interviewee said.	0.773
The interviewer was appropriately empathetic towards the interviewee.	0.876
The interviewer was engaged with the interviewee.	0.874
The interviewer was responsive to what the interviewee said.	0.827

Building a Relationship

The interviewer made an effort to understand the interviewee.	0.854
The interviewer took an interest in the interviewee.	0.876
The interviewer tried to find common ground with the interviewee.	0.743
The interviewer was sensitive to the wellbeing of the interviewee.	0.874

Being Approachable

The interviewer encouraged the interviewee to talk.	0.788
The interviewer's tone of voice was conversational.	0.744
The interviewer created a safe space for the interviewee to share information.	0.804
The interviewer reassured the interviewee.	0.843
The interviewer had an open body posture.	0.793
The interviewer was supportive of the interviewee.	0.853

Being Professional

The interviewer treated the interviewee fairly.	0.708
The interviewer was respectful towards the interviewee.	0.709
The interviewer was sincere with the interviewee.	0.767
The interviewer was confident when conducting the interview.	0.736
The interviewer was polite towards the interviewee	0.708
The interviewer adapted their communication to suit the interviewee.	0.829

Construct Validity

According to Campbell and Fiske (1959), a new scale demonstrates construct validity when there are at least moderate correlations with other preexisting instruments that measure similar constructs (convergent validity), and when there are low correlations with preexisting instruments that measure dissimilar constructs (discriminant validity). The current theoretical model of rapport considered here captures the idea that five components of rapport are interrelated and collectively contribute to the higher-level construct of rapport. Thus, the construct validity can be assessed by examining: (i) overall correlations between the Rapport-Pro and the construct validity measures, and (ii) how the second order and first-order factors correlate with the construct validity measures.

Convergent Validity

The correlation matrix between the Rapport-Pro and the construct validity scales is presented in Table 11. As expected, convergent validity was highlighted by significant correlations between the Rapport-Pro, its individual components, and the measures of similar

constructs. Both the RS3I and the Interaction Questionnaire measures of rapport were highly correlated with the Rapport-Pro overall rapport scores (r 's = .89, and .88, respectively).

Regarding the sub-components of the Rapport-Pro, it was found that *paying attention* correlated most strongly with the measures of attention; PANAS 'Attentiveness' ($r = .71$, $df = 397$), 'Active Listening' ($r = .84$, $df = 397$), and the 'Attentiveness' subscale of the RS3I ($r = .87$, $df = 196$). Further, *mutual connection* correlated most with the 'Connected Flow' subscale of the RS3I ($r = .83$, $df = 196$). *Being professional* correlated most strongly with the 'Expertise' subscale of the RS3I ($r = .85$, $df = 196$), the perceived 'Expertise' scale ($r = .78$, $df = 397$), the 'Trust' subscale of the RS3I ($r = .78$, $df = 196$) and perceived 'Trust' ($r = .78$, $df = 397$). Finally, Vallano and Schreiber Compo's (2011) interviewer subscale was similarly correlated across all components of rapport ($r = .80$ to $.83$, $df = 199$). *Being approachable* and *building a relationship* provided strong correlations with all similar constructs such as 'Rapport', 'Trust', 'Expertise', 'Active Listening', 'Attentiveness', and 'Serenity' (*being approachable* $r = .64$ to $.84$, *building a relationship* $r = .60$ to $.84$). The high correlations among the first-order factors in the second-order model are expected and are not indicative of a lack of discriminant validity in this context. Instead, they represent the shared variance among factors that are conceptually linked.

Discriminant Validity

The discriminant validity was demonstrated through low correlations found between the Rapport-Pro and the measures of 'Hostility' and 'Cultural Similarity', as well as via moderate association with 'Commitment to Share'. 'Cultural Similarity' was not included as part of the Rapport-Pro model which probably accounts for the weak correlations between 'Cultural Similarity' and the components of the Rapport-Pro ($r = .18$ to $.27$, $df = 196$). This also suggests that 'Cultural Similarity' has very little association with rapport, again suggesting signs of discriminant validity. Regarding, the 'Commitment to Share' component

of the RS3I, Duke et al. (2018a) reported that does not represent a facet of rapport but rather “the intended behavioural effect of rapport” (Duke et al., 2018 p. 66). As expected, there was a moderate correlation between the ‘Commitment to Share’ and Rapport-Pro ($r = .46$ to $.52$, $df = 196$), indicating that both are related without being part of the same construct. Last, there was a weak significant negative relationship between the ‘Hostility’ measure and the individual components of the Rapport-Pro ($r = -.11$ to $-.18$, $df = 397$). Of these, *mutual connection* and *building a relationship* correlated the least with ‘Hostility’ scores ($r = .11$ for both, $df = 397$).

Second Order and First Order Factors

Considering the theoretical second-order model of rapport, the correlations between the second-order factor (rapport) and other similar measures were higher than the correlations between the first-order factors and these related constructs, confirming that the second-order factor captures the common variance shared among these factors, while the first-order factors are more specific. This is particularly true for the most similar construct’s scale (‘Rapport’, ‘Trust’, ‘Expertise’, ‘Active Listening’, ‘Attentiveness’ and ‘Serenity’), except measures of ‘Respect/Trust’ ($r = .78$, $df = 196$), and perceived ‘Trust’ ($r = .72$, $df = 397$) which had marginally stronger correlations with *being professional* than with overall rapport ($r = .77$, $df = 196$ and $r = .71$, $df = 397$, respectively). Hence, the correlations confirm the presence of a second-order model. Conversely, it was hypothesised that lower correlations between overall rapport and unrelated constructs would be found compared to correlations between the five individual Rapport-Pro components of rapport and unrelated constructs. To some extent this was true with the correlations between overall rapport and ‘Hostility’ ($r = -.14$, $df = 397$) being the same or lower than those of individual components ($r = -.11$ to $r = -.18$, $df = 397$). Similarly, rapport was marginally associated with ‘Cultural Similarity’ ($r = .24$, $df = 196$) but correlations between ‘Cultural Similarity’ and individual components were similar or higher.

Therefore, the second-order model tested in Chapter 4 is reflected in the pattern of correlations across components of rapport and overall rapport score presented in this study.

Table 11

Correlations Between the Rapport-Pro, its Components, and the Construct Validity Scales

Construct validity Scales	Rapport-Pro					
	Rapport	Mutual Connection	Paying Attention	Building a Relationship	Being Approachable	Being Professional
Rapport scale for investigative interviews (RS3I)	.89**	.86**	.87**	.84**	.84**	.85**
‘Attentiveness’	.86**	.80**	.87**	.81**	.82**	.80**
‘Respect/ Trust’	.77**	.73**	.74**	.73**	.70**	.78**
‘Expertise’	.87**	.84**	.83**	.81**	.81**	.85**
‘Cultural Similarity’	.24**	.27**	.23**	.23**	.23**	.18*
‘Connected Flow’	.85**	.83**	.82**	.80**	.80**	.80**
‘Commitment to Share’	.52**	.51**	.47**	.46**	.49**	.52**
Interaction Questionnaire (IQ)	.88**	.83**	.84**	.83**	.84**	.83**
Interaction subscale	.87**	.83**	.83**	.81**	.82**	.81**
Interviewer subscale	.86**	.80**	.83**	.81**	.81**	.82**
PANAS ‘Hostility’	-.14**	-.11*	-.14**	-.11*	-.14**	-.18**
PANAS	.73**	.69**	.71**	.65**	.68**	.71**
‘Attentiveness’						
PANAS ‘Serenity’	.69**	.67**	.66**	.60**	.64**	.69**
The Celebrity Endorsers’ Perceived ‘Trust’ scale	.71**	.65**	.69**	.65**	.67**	.72**
The Celebrity Endorsers’ Perceived ‘Expertise’ scale						
Active listening Observation Scale (ALOS)	.82**	.78**	.79**	.76**	.77**	.78**
Active listening	.85**	.79**	.84**	.80**	.80**	.81**

Note. Rapport-Pro = The Rapport-Pro. * $p < .05$, ** $p < .001$. Degrees of freedom (df) = 397 for most correlations, except for the RS3I and its subcomponents (df = 196) and the Interaction Questionnaire and subscales (df = 199)

Concurrent validity

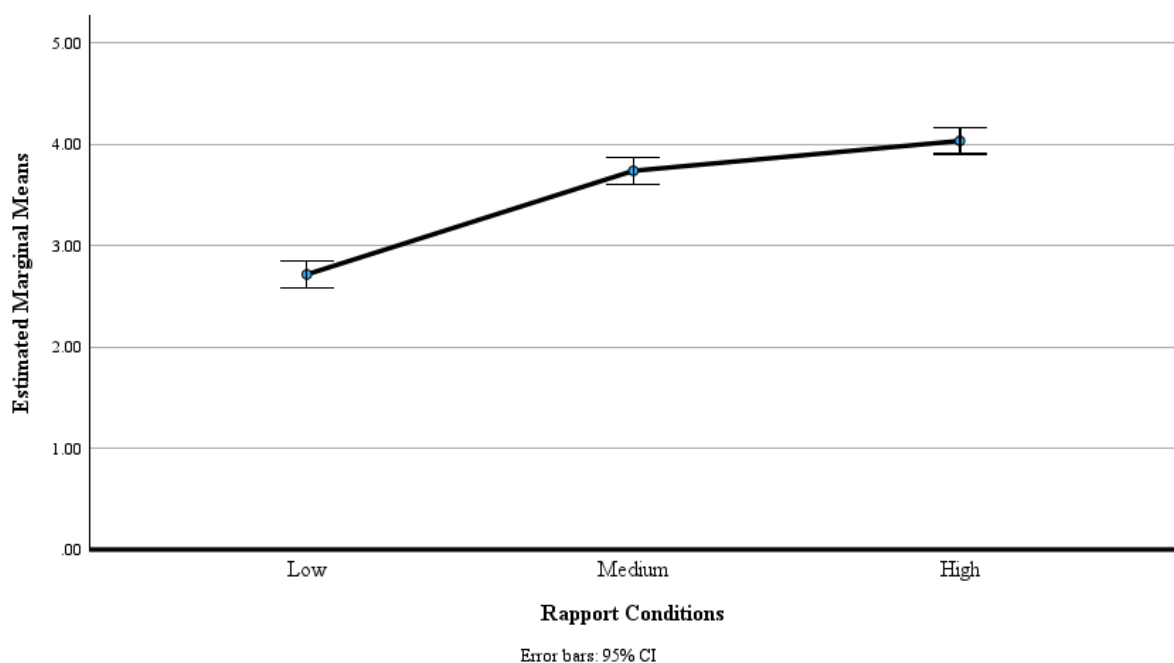
Rapport

A one-way between participant ANOVA was conducted between different rapport conditions (high vs. medium vs. low) on the overall rapport scores. Results revealed a significant effect of the rapport conditions, $F(2, 396) = 110.47, p < .001, \eta_p^2 = 0.36$.

Considering pairwise comparisons with a Bonferroni correction, there were significant differences between the low and high rapport conditions, $M \text{ difference} = 1.32, SE = .09, p < .001$, between the low and moderate rapport conditions, $M \text{ difference} = 1.02, SE = .09, p < .001$ and between the moderate and high rapport conditions, $M \text{ difference} = 0.30, SE = .09, p < .001$. Thus, the Rapport-Pro seemed to detect to some extent the variation in rapport as presented in Figure 5 (see Table 12 for descriptive statistics).

Figure 5

The Estimated Marginal Means (and Errors Bars) According to the Rapport Conditions (Low, Medium and High)



As a manipulation check, a one-way between participant ANOVA was conducted between the levels of rapport present in the videos (high vs. medium vs. low) on the overall rapport scores of the RS3I (Duke et al., 2018) and on Vallano and Schreiber Compo's (2011) interaction questionnaire (IQ). Similar results to the Rapport-Pro were found, with a significant effect for rapport conditions on overall RS3i ratings, $F(2, 195) = 41.60, p < .001, \eta_p^2 = 0.30$ and overall IQ ratings, $F(2, 198) = 31.07, p < .001, \eta_p^2 = 0.24$. Considering pairwise comparison for the RS3i ratings with Bonferroni correction again, a comparable pattern was found. There was a significant difference between the low and moderate rapport conditions, $M \text{ difference} = .77, SE = .11, p < .001$, and between the low and high rapport conditions, $M \text{ difference} = .90, SE = .11, p < .001$. However, no significant differences were found between the moderate and high conditions, $M \text{ difference} = .12, SE = .11, p = 0.77$. Similar to the Rapport-Pro, the IQ detected some differences between the low and moderate conditions, $M \text{ difference} = .90, SE = .18, p < .001$, the moderate to high conditions, $M \text{ difference} = .49, SE = .18, p = .022$, and the low to high conditions, $M \text{ difference} = .1.39, SE = .18, p < .001$. Of these three measures of rapport, it appears as though the Rapport-Pro is the most sensitive measure of detecting differences.

Table 12

Estimated Marginal Means of the Rapport-Pro as a Whole, its Five Components, RS3i, and IQ

	Conditions					
	Low		Moderate		High	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Rapport-Pro	2.72	.07	3.74	.07	4.03	.07
Mutual connection	2.60	.07	3.56	.07	3.67	.08
Paying attention	2.64	.08	3.84	.08	4.15	.08
Building a relationship	2.36	.08	3.45	.08	3.93	.08
Being approachable	2.56	.07	3.61	.07	4.11	.07
Being professional	3.27	.06	4.12	.06	4.23	.06
Duke et al. (2018) RS3i	3.28	.09	3.58	.09	3.61	.09
Vallano & Schreiber Compo (2015) IQ	3.66	.13	4.56	.13	5.05	.13

Associated Constructs						
'Attentiveness (PANAS)'	3.16	.08	3.44	.08	3.47	.08
'Active Listening'	2.99	.08	3.29	.08	3.35	.08
'Serenity'	3.22	.08	3.58	.09	3.65	.09
'Trust'	4.93	.11	5.17	.11	5.44	.11
'Expertise'	3.75	.15	4.22	.15	4.37	.15

Components of Rapport

To further assess whether the Rapport-Pro can detect variations in different levels of rapport, five one-way between participant ANOVAs were conducted to assess how individual components of rapport ratings on the Rapport-Pro were affected by the levels of rapport present in the videos (high vs. medium vs. low). A Bonferroni correction was applied on the alpha level ($p = 0.01$). The descriptive statistics are provided in Table 12. A significant difference was found for all components of rapport between the rapport conditions: *mutual connection*, $F(2, 396) = 63.68, p < .001, \eta_p^2 = .24$, *paying attention*, $F(2, 396) = 112.57, p < .001, \eta_p^2 = .36$, *building a relationship*, $F(2, 396) = 109.54, p < .001, \eta_p^2 = .36$, *being approachable*, $F(2, 396) = 126.04, p < .001, \eta_p^2 = .40$, and *being professional*, $F(2, 396) = 74.88, p < .001, \eta_p^2 = .27$.

To examine these findings further, post hoc analyses were performed to consider the pairwise comparisons for each component of rapport, again applying a Bonferroni correction. The descriptive statistics (mean and standard errors) are summarised in Table 12. The mean difference, standard errors and significance for each component of rapport between the different rapport conditions (low vs. moderate vs. high) are presented below in Table 13.

In sum, the results indicate that the Rapport-Pro is effective in detecting significant differences across all five components of rapport (*mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional*) when comparing different levels of rapport. Although significant differences were observed for each component, the specific patterns of significance varied only for *mutual connection* and *being*

professional, highlighting the complexity of rapport and the potential interactive nature of these components in building rapport. *Paying attention*, *building a relationship* and *being approachable* were found to significantly increase across each condition. This suggests that the Rapport-Pro not only differentiates between varying degrees of rapport as whole, but also differentiates levels at the component level. Therefore, these findings support the model of rapport proposed in Study 1, reinforcing the idea that each component is interrelated and collectively contributes to the overall rapport experience.

Table 13

Summary of Changes in the Five Components of the Rapport-Pro (mean difference and SE) Across Different Rapport Conditions (Low vs. Moderate vs. High)

	Condition comparisons					
	Low-Medium		Medium-High		Low-High	
	ΔM	SE	ΔM	SE	ΔM	SE
Rapport-Pro						
<i>Mutual connection</i>	0.96**	.10	0.11	.11	1.07**	.11
<i>Paying attention</i>	1.21**	.11	0.31**	.11	1.52**	.11
<i>Building a relationship</i>	1.09**	.11	0.48**	.11	1.57**	.11
<i>Being approachable</i>	1.05**	.10	0.50**	.10	1.55**	.10
<i>Being professional</i>	0.85**	.09	0.11	.09	0.96**	.09

Note. Bolded entries indicate significant comparisons of conditions. ** $p < .001$. * $p < .05$.

Manipulation Checks

A series of one-way between participant ANOVAs were also conducted to examine differences between the rapport conditions on each of the scales: ‘Hostility’, ‘Active Listening’, ‘Attentiveness’, ‘Serenity’, ‘Trust’, and ‘Expertise’. The descriptive statistics are presented in Table 12. As hypothesised, no significant difference was found in ‘Hostility’

ratings across the conditions, $F(2, 401) = 1.03, p = .357, \eta_p^2 = .005$. However,

‘Attentiveness’, $F(2, 401) = 5.13, p = .006, \eta_p^2 = .025$, ‘Active Listening’, $F(2, 401) = 6.55,$

$p = .002, \eta_p^2 = .032$, ‘Serenity’, $F(2, 401) = 7.04, p = .001, \eta_p^2 = .034$, ‘Trust’, $F(2, 401) =$

$5.14, p = .006, \eta_p^2 = .025$, and ‘Expertise’, $F(2, 401) = 4.80, p = .009, \eta_p^2 = .023$, were all

found to significantly vary across rapport conditions. Post Hoc analyses using Bonferroni corrections revealed that measures of ‘Attentiveness’ and ‘Active Listening’ followed the same pattern as the subcomponent *paying attention* in the Rapport-Pro, with a significant difference between low and medium rapport conditions ($M\ difference = .27$, $SE = .11$, $p = .032$; $M\ difference = .29$, $SE = .11$, $p = .023$, respectively), and between the low and high rapport conditions ($M\ difference = .31$, $SE = .11$, $p = .010$; $M\ difference = .38$, $SE = .11$, $p = .002$, respectively). ‘Serenity’ ratings were significantly different between the low and medium conditions ($M\ difference = .35$, $SE = .12$, $p = .010$) and the low and high conditions ($M\ difference = .42$, $SE = .12$, $p = .002$). Perceived ‘Trust’ and ‘Expertise’ were found to increase significantly between the low and high condition only ($M\ difference = .48$, $SE = .15$, $p = .004$; $M\ difference = .62$, $SE = .21$, $p = .009$, respectively), but not between the low and medium conditions ($M\ difference = .24$, $SE = .15$, $p = .328$; $M\ difference = .45$, $SE = .21$, $p = .086$, respectively). As a whole, these findings confirm the trends found with the Rapport-Pro scores of overall rapport, and for the individual components, thus further demonstrating the construct validity and precision of the Rapport-Pro. The findings also imply that the presence of certain rapport components might be sufficient to enhance the overall perception of rapport. Although overall rapport ratings improved between the low and medium conditions, not all rapport components demonstrated a significant change between those conditions. Factors such as *being professional*, ‘Trust’, and ‘Expertise’ showed no difference between the medium and high conditions but were significantly present in the high rapport condition. This indicates a potential interplay between rapport components, influencing the ratings or presence of other elements requiring further investigation.

Summary of the Results from Study 2

Study 2 investigated whether the theoretical model of the Rapport-Pro was confirmed through CFA. In addition, the construct and concurrent validity of the Rapport-Pro was

assessed. The results of the CFA replicated the findings from Study 1, endorsing the second-order model of the Rapport-Pro and affirming its ability to comprehensively capture rapport through its five first-order factors: *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional*. The model fit indices indicated a good fit to the observed data, suggesting stability across time. Furthermore, the Rapport-Pro exhibited robust convergent and discriminant validity, showcasing substantial correlations with similar constructs (e.g., ‘Rapport’, ‘Trust’, ‘Expertise’, ‘Active Listening’, ‘Attentiveness’ and ‘Serenity’) while demonstrating minimal associations with dissimilar constructs (e.g., ‘Hostility’, ‘Cultural Similarity’, ‘Commitment to Share’). Replicating previous findings, the Rapport-Pro effectively detected differences in varying levels of rapport low, medium, and high. These results were echoed by manipulation checks showing similar patterns across existing measures of rapport and similar constructs. In sum, Study 2 provides strong evidence for the validity and reliability of the Rapport-Pro in assessing rapport within information-gathering contexts, highlighting its effectiveness in capturing the multifaceted essence of rapport.

Study 3: Methodology

Study 3 seeks to further examine the concurrent validity of the Rapport-Pro, utilising varied manipulations to assess its sensitivity to different rapport-building strategies. This study also explores the interactions between each component of rapport as well examining their collective contribution to overall perceptions of rapport. The study was preregistered on AsPredicted (Wharton Credibility Lab, 2015; see Appendix J for preregistration).

Design

Similar to Study 3, an online survey using Qualtrics was conducted whereby participants viewed a video-taped interaction between an interviewer and interviewee (both actors) and rated the presence of rapport using the Rapport-Pro. Study 3 employed a between participant design with five conditions, manipulating the presence of individual components of rapport of the Rapport-Pro. The component *being professional* was present across all conditions. In the Control condition, only the component *being professional* was present. In the conditions Paying Attention, Building a Relationship, and Being Approachable, these components of rapport were each paired with *being professional*. There was also a Combined Components condition whereby the interviewer used verbal and non-verbal rapport behaviours to demonstrate *being professional*, *paying attention*, *building a relationship*, and *being approachable*.

Participants

A total of 200 participants ($M_{age} = 43.22$, $SD = 13.65$) between 19 and 77 years old were recruited in the study. A power analysis was conducted which suggested that a total of 196 participants would be sufficient to reach a power of .80 with a moderate effect size (0.25) and an alpha of .05. Participants were recruited through Prolific (www.prolific.com) and received the equivalent of £6/hour for their study participation. To ensure the quality of the

data, manipulation checks were included. If participants failed two manipulation checks, their participation was rejected. Overall, the sample consisted of 49.5% ($n = 99$) males, 50% ($n = 100$) females, and 0.5% ($n = 1$) participants who identified as non-binary or as being part of a third gender. Each participant was randomly allocated to one of five conditions: 19.5% ($n = 39$) were in the Being Approachable condition, 20% ($n = 40$) of participants were in the Control, Paying Attention, and in the Combined Components conditions, and 20.5% ($n = 41$) were in the Building Relationship condition. There were no missing values.

Materials

Appendix L presents the ethics documentation as well as the survey materials which were used in this study.

Videos

Five videos were created, each depicting an interaction between two actors portraying an interviewer and a witness of a crime. The videos differed according to which components of rapport featured. Otherwise, the videos were similar with respect to the script and the length of the interview (~5 minutes). The script was developed with reference to previous studies assessing rapport using fictional crime scenarios (see Dion Larivière et al., 2023; Duke et al., 2018a). To avoid interviewer effects, three actors were recruited (one male and two females) and interchangeably played the role of the interviewer or of the interviewee. Each actor received £134 for their contribution to the study. The scripts are presented in Appendix K.

For each condition, a set of verbal, non-verbal, and paraverbal behavioural correlates of rapport were collated based on previous studies manipulating different strategies of building rapport (see Collins & Carthy, 2018; Dion Larivière et al., 2023; Dhimi et al., 2017; Duke et al., 2018a; Gabbert et al., 2021; Huang & Teoh; 2019; Hoogesteyn et al., 2023; Kiltie

et al., 2023). Two observers coded these behavioural strategies, categorising them into the five components of rapport outlined in the Rapport-Pro. There was an acceptable level of agreement between the coders (ICC = .70, 95% CI [0.55, 0.79]), and a meeting was organised to resolve any discrepancies. These behavioural strategies are presented in Table 14. In the Control condition, actors were required to portray behaviours associated with *being professional*, as this represents the most basic form of respect required in any professional interview. While previous researchers have often compared anti-rapport, sometimes alongside a neutral condition of rapport, as the baseline for their comparisons (Collins et al., 2002; Duke et al., 2018a), the most recent guidelines recommend building rapport and using ethical approaches to interviewing. Thus, using anti-rapport as a baseline is unlikely to be realistic in the context of investigative interviewing. Instead, *being professional* was deemed the most appropriate baseline. Across the other conditions, the actors used behaviours associated with *being professional* in addition to whichever component of rapport was of interest for that condition. Last, the Combined Components condition encompassed all the rapport building behaviours that had featured across the other conditions. To counteract any potential video effects (e.g., the particular interviewer or interviewee featured), three videos were recorded for each of the five conditions resulting in a total of 15 videos. Once recorded, the videos were uploaded on YouTube using an unlisted playlist allowing them to access the videos only when the link is provided. The links are provided in Appendix L.

Table 14

Behavioural Strategies Associated with Rapport used for Study 3 Sourced Across Research Employing Scripts to Manipulate Rapport

Conditions	Strategies of Rapport	Sources
Control	Credibility (coordination)	Collins & Carthy (2018)
	Information about purpose, process, and procedure (coordination)	Collins & Carthy (2018)

	Familiarisation with the room (coordination)	Collins & Carthy (2018)
	Formal and politeness	Collins & Carthy (2018); Dion Larivière et al., (2023); Huang & Teoh (2019)
	Provide explanations with patience	Huang & Teoh (2019)
	Empathy (positivity)	Collins & Carthy (2018); Gabbert et al. (2021); Dion Larivière et al., (2023)
	Back-channel response (attention)	Collins & Carthy (2018); Dhami et al. (2017); Hoogesteyn et al. (2023)
	Acknowledgement (attention)	Collins & Carthy (2018) Collins & Carthy (2018)
	Identifying emotions (attention)	Collins & Carthy (2018)
	Eye contact	Collins & Carthy (2018); Dion Larivière et al., (2023); Duke et al., (2018a); Gabbert et al. (2021); Huang & Teoh (2019); Kiltie et al. (2023)
Paying Attention	Repetition/ Recap/ Paraphrasing	Collins & Carthy (2018); Kiltie et al. (2023)
	Follow-up questions	Kiltie et al. (2023)
	Nodding	Dhami et al. (2017); Dion Larivière et al., (2023); Gabbert et al. (2021); Hoogesteyn et al. (2023); Kiltie et al. (2023)
	Active listening/ signal <i>paying attention</i> (verbal)	Dhami et al. (2017); Dion Larivière et al., (2023); Duke et al., (2018a); Gabbert et al. (2021); Hoogesteyn et al. (2023); Kiltie et al. (2023)
	Orienting towards the other person (non- verbal)	Dhami et al. (2017)

	Changing behaviour in response to what is said (non-verbal)	Dhami et al. (2017)
	Not interrupting the other person (non-verbal)	Dhami et al. (2017); Duke et al. (2018a)
	Use of (preferred) name/ first name (positivity)	Collins & Carthy (2018); Dhami et al. (2017); Dion Larivière et al., (2023); Gabbert et al. (2021); Hoogesteyn et al. (2023); Huang & Teoh (2019)
	Engaging in self-disclosure (verbal)	Dhami et al. (2017); Dion Larivière et al., (2023); Gabbert et al. (2021); Hoogesteyn et al. (2023); Huang & Teoh (2019)
Building a Relationship	Showing respect by shaking hands upon meeting (non-verbal)	Hoogesteyn et al. (2023) ; Kiltie et al., (in press)
	Show personal interest/ reciprocity (verbal)/ personalised response	Dion Larivière et al., (2023); Duke et al. (2018a); Gabbert et al. (2021)
	Showing kindness and a caring attitude (non-verbal)	Dhami et al. (2017)
	Let interviewees have their say	Huang & Teoh (2019)
	Humour (positivity)	Collins & Carthy (2018) ; Kiltie et al. (2023)
Being Approachable	Friendliness/ sociable (positivity)/ Create a friendly, ‘Trusting relationship with the witness/ Friendly and close attitude	Collins & Carthy (2018); Duke et al. (2018a); Huang & Teoh (2019) ; Kiltie et al. (2023)
	Reassurance (positivity)	Collins & Carthy (2018)
	Body Posture/ open and relaxed body language (non-verbal) Posture and speech rate of the other person (non-verbal)	Dhami et al. (2017); Dion Larivière et al., (2023); Gabbert et al. (2021); Huang

	& Teoh (2019) ; Kiltie et al. (2023)
Relaxing the witness / comfortable	Kiltie et al. (2023)
Tone of voice/ gentle tone of voice (para-verbal)	Dhami et al. (2017); Gabbert et al. (2021); Huang & Teoh (2019); Kiltie et al. (2023)
Small talk	Dhami et al. (2017); Huang & Teoh (2019); Kiltie et al. (2023)
Sitting at the same level	Kiltie et al. (2023)
Hand gestures	Kiltie et al. (2023)
Smiling (non-verbal)	Dion Larivière et al., (2023); Gabbert et al. (2021); Huang & Teoh (2019); Kiltie et al. (2023)
Colloquialisms (verbal)	Dhami et al. (2017);
Positive language and nonverbal behaviours	Dhami et al. (2017); Huang & Teoh (2019)

The Rapport-Pro (Brouillard, Gabbert & Scott, under Review)

The same version of the Rapport-Pro as used in Study 2 was used for Study 3 including 26 items measuring the presence of rapport in an interaction by assessing five main components of rapport: *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional* (see Appendix F). The measure was validated in previous chapters and analysis of the reliability suggested that the Rapport-Pro was reliable with the current sample (Cronbach's alpha = .87 to .97).

Procedure

Participants could access the study through an anonymous link shared via Prolific. Upon accessing the study, participants were presented first with information about the study,

including an outline of the objectives and general procedure. Those who consented to participate were randomly allocated to one of the five conditions: Control, Paying Attention, Building a Relationship, Being Approachable, and the Combined Components. To prevent any video effects, participants were randomly allocated to one of the three videos that had been filmed for each condition. To prevent participants from skipping the video without watching in full, the function to delay skipping forward was utilised within Qualtrics. The only difference between the videos was the actors playing the interviewer and the interviewee, the content remained consistent. In total, participants were allocated to watch one of 15 possible videos (three relating to each experimental condition). The Rapport-Pro and attention checks were presented directly below the videos, allowing participants to rate the level of rapport in the interaction as the video unfolded. Once participants had rated the rapport present in the interaction using the Rapport-Pro, they were thanked and debriefed about the purpose and next steps of the project. The accompanying documents to the ethics and the survey materials are provided in Appendix 1.

Results

Rapport

A one-way between participant ANOVA was conducted to examine any difference between the five conditions manipulating components of rapport (Control, Paying Attention, Building a Relationship, Being Approachable, and Combined Components) on the averaged rapport scores collected via the Rapport-Pro. Assumptions of ANOVA were examined, suggesting heterogeneity of variance was present in the data. However, this was disregarded considering ANOVA is robust to this kind of violation when group sizes are sufficient and equal across conditions (Tabachnick & Fidell, 2014). Results of the ANOVA suggest that there was a significant difference in the overall rating of rapport between the conditions, $F(4, 195) = 30.98, p < .001, \eta_p^2 = .39$. The descriptive statistics are provided in Table 15.

Table 15

Descriptive Statistics for the Averaged Rapport Scores According to Each Condition.

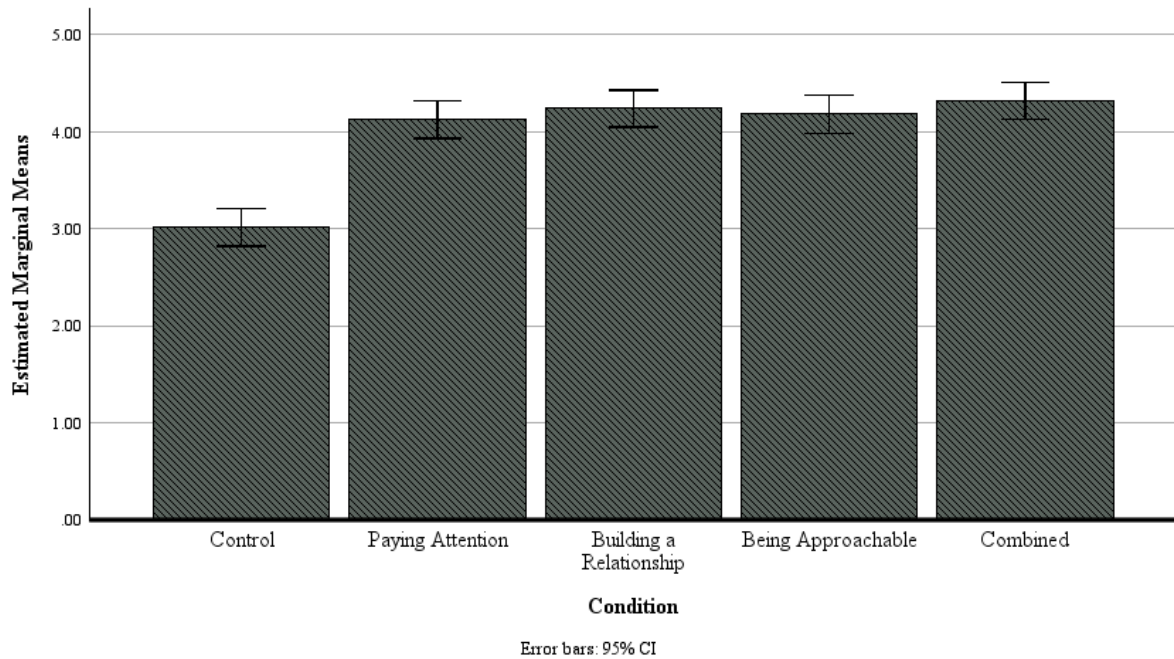
Conditions	Averaged Rapport Scores (Rapport-Pro)	
	M	SD
Control	3.02	.90
Paying Attention	4.13	.56
Building a Relationship	4.24	.53
Being Approachable	4.18	.52
Combined Components	4.32	.48

Post Hoc Analysis

This significant effect was further examined by performing Post Hoc tests using a Bonferroni correction on the alpha level. Results revealed only a significant difference between the Control condition and all other conditions (as shown in Figure 7); Paying Attention (*M difference* = 1.11, *SE* = .14, $p < .001$), *Building a Relationship* (*M difference* = 1.23, *SE* = .14, $p < .001$), Being Approachable (*M difference* = 1.17, *SE* = .14, $p < .001$), and the Combined Components (*M difference* = 1.31, *SE* = .14, $p < .001$). There was no distinction observed between conditions where a single component of rapport was isolated ($p = 1.000$). Likewise, there was no disparity between conditions isolating a rapport component and the combined condition where all components were employed ($p = 1.000$). For example, there was no difference between the Paying Attention, Building a Relationship, Being Approachable and the Combined Components across each of the components of rapport's scores. This suggests that rapport scores increase as soon as a component of rapport is employed, irrespective of which or how many components are utilised.

Figure 6

The Estimated Marginal Means for the Averaged Rapport Scores on the Rapport-Pro Plotted According to Each Condition; Control, Paying Attention, Building a Relationship, Being Approachable, and the Combined Components Condition.



Components of Rapport

A one-way between participant MANOVA was carried out to assess how the different conditions (Control, Paying Attention, Building a Relationship, Being Approachable and Combined Components) influenced the average score for each of the sub-component of rapport within the Rapport-Pro (*mutual connection, paying attention, building a relationship, being approachable, being professional*). For example, it was of interest to examine whether participants in the Paying Attention condition rated this component of rapport higher in comparison to the other components of the Rapport-Pro. Before running the MANOVA, the assumptions were checked and multicollinearity between averaged scores for each component of rapport was examined. The analysis revealed strong correlations among the dependent variables, with correlation coefficients ranging from .74 to .85. However, these

findings should be contextualised within the theoretical framework of the second-order model under examination. Given the nature of the model, strong correlations between scores on each component of the Rapport-Pro are expected. To assess the potential influence of multicollinearity on the MANOVA, Variance Inflation Factor (VIF) and tolerance values were computed for each dependent variable. Descriptive statistics, along with the VIF and tolerance values, are presented in Table 16. The VIF values (all below 10) and tolerance values (remaining above 0.1) suggest that multicollinearity is unlikely to affect the MANOVA results. Nevertheless, the interpretation of the findings should consider the potential influence of collinearity. In addition, the assumption of equal covariance matrices was breached, as evidenced by a significant Box's test. Consequently, Pillai's Trace will be utilised for interpreting the results.

Table 16

Descriptive Statistics for Each of the Conditions (Control, Paying Attention, Building a Relationship, Being Approachable, Combined Components) According to the Five Components of the Rapport-Pro (and VIF and Tolerance Values)

	Components of Rapport									
	Mutual Connection		Paying Attention		Building a Relationship		Being Approachable		Being Professional	
Conditions	M	SE	M	SE	M	SE	M	SE	M	SE
VIF	3.24		4.67		3.96		5.23		3.04	
Tolerance	0.31		0.21		0.25		0.19		0.33	
Control	3.07	.11	2.97	.12	2.46	.12	2.81	.11	3.59	.09
Paying Attention	3.94	.11	4.24	.12	3.79	.12	4.18	.11	4.36	.09
Building a Relationship	4.11	.11	4.26	.12	4.21	.12	4.22	.11	4.38	.09
Being Approachable	4.09	.11	4.22	.12	3.85	.13	4.21	.11	4.43	.10

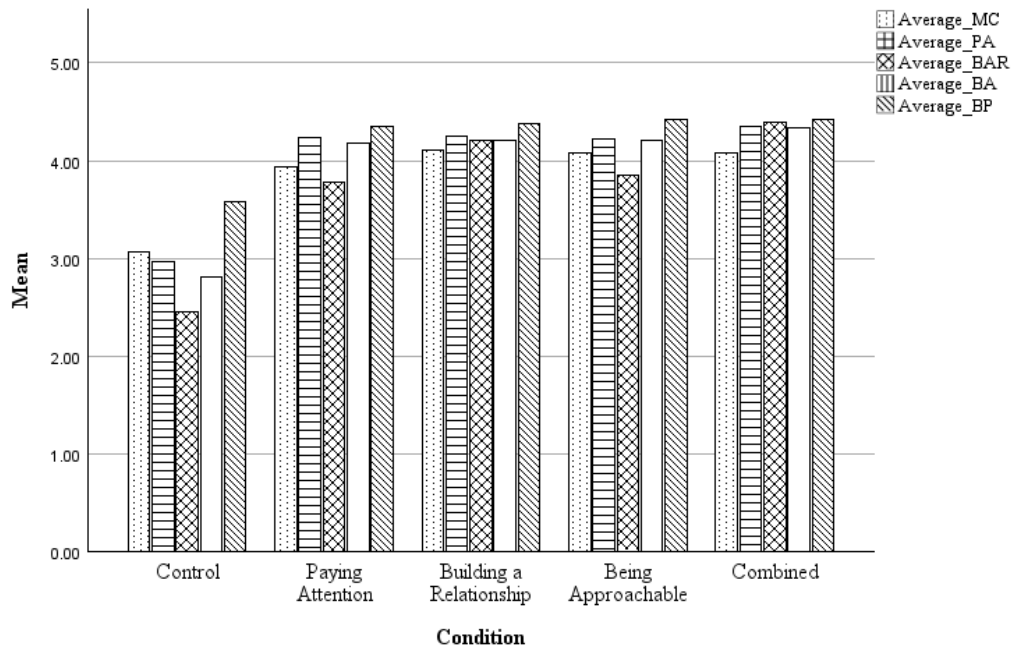
Combined	4.09	.11	4.35	.12	4.40	.12	4.34	.11	4.43	.09
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Note. Bolded entries indicate the highest mean scores per rapport component based on the condition.

The results of the MANOVA indicated a significant effect of the conditions on the average score for each component of rapport as included in the Rapport-Pro, $F(20, 776) = 6.71, p < .001, \eta_p^2 = .15$. Considering the between-participant effects, it was found that average scores for each component of rapport was significantly affected by the experimental condition (see Figure 7); Control, $F(4, 195) = 16.10, p < .001, \eta_p^2 = .248$, Paying Attention, $F(4, 195) = 22.72, p < .001, \eta_p^2 = .32$, Building a Relationship, $F(4, 195) = 37.62, p < .001, \eta_p^2 = .436$, Being Approachable, $F(4, 195) = 33.12, p < .001, \eta_p^2 = .405$, and Being Professional, $F(4, 195) = 14.91, p < .001, \eta_p^2 = .234$. According to the effect sizes, *building a relationship* contributed most to the variance in rapport, followed by *being approachable*, *paying attention*, *mutual connection*, and *being professional*.

Figure 7

The Estimated Marginal Means for Each Components of Rapport Scores on the Rapport-Pro Plotted According to Each Condition; Control, Paying Attention, Building a Relationship, Being Approachable, and the Combined Components Condition.



Post Hoc Analysis

Post Hoc analyses were conducted to further understand how each condition affected the components of rapport. Interestingly, the same pattern of results that was found when examining overall rapport scores. Average scores for *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional* all significantly increased between the Control and Paying Attention condition (M difference = 0.87, SE = .16, $p < .001$, M difference = 1.28, SE = .17 $p < .001$, M difference = 1.33, SE = .18, $p < .001$, M difference = 1.37, SE = .16, $p < .001$, M difference = .77, SE = .13, $p < .001$, respectively). The same was found for the Control and Building a Relationship conditions (M difference = 1.04, SE = .16, $p < .001$, M difference = 1.29, SE = .17, $p < .001$, M difference = 1.75, SE = .17, $p < .001$, M difference = 1.40, SE = .16, $p < .001$, M difference = .79, SE = .13, $p < .001$,

respectively). Also, for the Control and Being Approachable conditions (M difference = 1.02, SE = .16, M difference = 1.26, SE = .17, $p < .001$, M difference = 1.38, SE = .18, $p < .001$, M difference = 1.40, SE = .16, $p < .001$, M difference = .84, SE = .13, $p < .001$, respectively). Similarly for the Control and Combined Components conditions (M difference = 1.02, SE = .16, $p < .001$, M difference = 1.38, SE = .17, $p < .001$, M difference = 1.93, SE = .18, $p < .001$, M difference = 1.53, SE = .16, $p < .001$, M difference = 0.84, SE = .13, $p < .001$, respectively). There was no variation observed within conditions isolating components of rapport, nor between the combined components condition across average scores of *mutual connection*, *paying attention*, *being approachable*, and *being professional*. Yet, scores for *building a relationship* exhibited a slightly divergent pattern; here, findings suggested a significant difference in average scores for *building a relationship* between the Combined condition and Paying Attention condition (M difference = .61, SE = .18, $p = .006$) as well as the Being Approachable condition (M difference = 0.55, SE = .18, $p = .019$). Thus, the absence of *building a relationship* strategy was particularly noticeable and further highlighted its impact using all components of rapport simultaneously.

Summary of the Results from Study 3

In summary, the findings of the MANOVA suggest that individual scores for each component of the Rapport-Pro increase as soon as a component of rapport is present, irrespective of which or how many components of rapport feature. Based on the means presented in Table 15, *mutual connection* increased the most in the Building a Relationship, Being Approachable, and the Combined Components conditions, suggesting that these conditions may foster a stronger sense of *mutual connection*. The *paying attention* component of rapport demonstrated the highest means across all conditions except the Control, peaking in the Combined Components condition. As expected, the highest means for *building a relationship* were found in the Building a Relationship and the Combined Components

condition. Similarly, the highest mean scores for *being approachable* were observed in the Being Approachable and Combined Components conditions. Finally, *being professional* remained relatively high across all conditions, although the highest mean scores were observed in the Combined Components condition suggesting that the combination of all components of rapport affect perceptions of professionalism. Despite nonsignificant results, all components of rapport have the highest observable means in the Combined Components condition, except for *mutual connection* which is most affected by the Building a Relationship condition. Overall, these findings suggest that although only a single component of rapport is necessary to generate a sense of rapport, combining different rapport-building strategies appears to influence ratings of all components of rapport, such as *mutual connection, paying attention, building a relationship, being approachable, and being professional*.

Discussion

The studies presented in this chapter focused specifically on the validation and further evaluation of the Rapport-Pro. The primary goal was to substantiate the validity of the Rapport-Pro by considering various types of validity. Study 2 aimed to strengthen the conclusions drawn in Chapter 4 regarding factorial and concurrent validity while extending the analysis to include additional assessments of construct validity. Study 3 aimed to achieve two primary objectives: firstly, to replicate the outcomes of Study 2, thereby affirming the Rapport-Pro's efficacy in discerning fluctuations in rapport. Secondly, to complement the findings from Study 2 by exploring the underlying dynamics of rapport and how the components theorised in the Rapport-Pro interact and contribute to rapport. Consequently, Study 3 was designed to assess both the individual and collective impact of each component of rapport on an observer's ratings of rapport. In this section, the findings are summarised and placed within the context of the existing literature while acknowledging the limitations of

the studies. The implications of these findings for theory, practice, and future research are subsequently discussed in Chapter 6.

Validation of the Rapport-Pro

Factorial Validity

The current studies have demonstrated both the efficacy and consistency of the Rapport-Pro in evaluating various levels of rapport, supported by robust evidence of factorial, concurrent, and construct validity. Regarding factorial validity, the replication of the second-order model established in Chapter 4 was successful, demonstrating a strong and consistent fit with the observed data. Additionally, findings revealed that the correlations between the second-order factor (rapport) and similar measures were notably higher compared to those between the subcomponents of the Rapport-Pro and these related constructs, affirming the Rapport-Pro's ability to capture the shared variance among rapport's subcomponents. Although we expected lower correlations between rapport and unrelated constructs compared to the correlations between the five components of rapport and unrelated constructs, the observed correlations were remarkably similar. Indeed, this similarity posed a challenge in discerning a significant difference. However, it is worth noting that correlations between rapport and unrelated measures tended towards the lower end of the average correlations, indicating the need for further investigation.

The findings of this chapter align with Chapter 4 and previous research advocating for a multifaceted theoretical framework of rapport (Abbe & Bandon, 2013; 2014; Duke et al., 2018a; Gabbert et al., 2021; Magee, 2020; Tickle-Degnen & Rosenthal, 1990), and contrasts with studies supporting a unidimensional view of rapport (e.g., Bernieri et al., 1996). These findings are therefore particularly relevant as some researchers contend that assuming data can be explained by a single common factor is a convenient yet unrealistic assertion (Reise et

al., 2013). In addition, the evaluation of psychometric properties and the process of measure development often contribute to theory advancement (Booth & Murray, 2018) and inform real-world decision-making (Hughes & Batey, 2017). In this case, the findings directly influence the approach to rapport in practice, enabling a focus on various interpersonal skills or rapport components rather than an abstract single concept. These results also reinforce the conclusions of Gabbert et al. (2021), which synthesised behavioural strategies of rapport into primary components for interviewer implementation. Most significantly, the findings bolster the assertion made by a few researchers (e.g., Duke et al., 2018a; Magee, 2020; Tickle-Degnen & Rosenthal, 1990) that rapport is not merely unidimensional but rather functions through the engagement of multiple components.

Construct Validity

The findings across the studies presented in this chapter provide evidence supporting the construct validity of the Rapport-Pro through convergent and discriminant validity analyses. As hypothesized, robust relationships were identified between the Rapport-Pro and related constructs. Specifically, strong associations were observed between the Rapport-Pro and established measures of rapport, such as Vallano and Schreiber Compo's (2011) and Duke et al.'s (2018a) scales. Additionally, interrelations among the components of the Rapport-Pro were evident. For instance, the *paying attention* component of rapport in the Rapport-Pro exhibited the strongest correlations with relevant sub-scales from other measures, including 'Attentiveness', 'Attention', and 'Active Listening'. Similarly, the *being professional* component in the Rapport-Pro showed notable associations with similar constructs, including the 'Respect/Trust' and 'Expertise' scales of the RS3I (Duke et al. 2018), as well as Ohanian's (1990) Perceived 'Trust' and 'Expertise' scale. Despite demonstrating strong correlations with rapport or similar constructs overall, the *being approachable* and *building a relationship* component of rapport did not exhibit predominant

associations with any particular construct. This observation could be attributed to their conceptualisation as complex components of rapport, each encompassing multiple skills aimed at either personalising the interaction or facilitating conversation. For example, it is plausible that each of the rapport-associated constructs measured ('Trust', 'Attentiveness', 'Active Listening', 'Serenity', and 'Expertise') contribute in distinct ways to *building a relationship* or *being approachable*. Hence, there may be varied interactions between components of rapport that reinforce the presence or perceptions of rapport components. The mechanisms underlying the attainment of rapport have yet to be thoroughly explored, emphasising the need for further research in this area.

The Rapport-Pro further demonstrated construct validity through evidence of discriminant validity, as indicated by weak correlations between rapport, its subcomponents, and unrelated constructs. Specifically, weak negative associations were observed between 'Hostility' and rapport, with *mutual connection* and *building a relationship* demonstrating the lowest association with 'Hostility'. These findings suggest that as subcomponents of rapport are implemented, rapport increases, consequently resulting in a decrease in ratings of 'Hostility'. Hence, it is likely that 'Hostility' and rapport are independent constructs that do not exhibit a strong correlation. These findings echo those of previous research examining differences in rapport perceptions between rapport-based and non-rapport interviews. For example, Holmberg and Madsen (2014) allocated their participants to different conditions in which they were interviewed using a humanitarian rapport-based versus a dominant non-rapport-based approach which included some 'Hostility' to the participants (e.g., negative attitudes, aggressiveness, unfriendliness). Considering participants' perceptions of rapport with the interviewer, those in the humanitarian rapport-based approach were more likely to perceive the interviewer as humanitarian than those in the dominant non-rapport interviews. Similarly, Oostinga et al. (2018) used the PANAS-X and Vallano and Schreiber Compo's

(2011) scale and found significant weak negative associations between ‘Hostility’ and ‘Trust’ ($r = -.21$) and rapport ($r = -.25$), thus corroborating the findings reported here.

Additionally, the results of the studies presented in this chapter suggest little to no association between rapport, its subcomponents, and ‘Cultural Similarity’ as assessed by Duke et al.’s (2018a) RS3I. Despite natural cultural differences between the interviewer and interviewees in the stimulus videos used in the present studies, there was no deliberate manipulation of cultural backgrounds. However, if ‘Cultural Similarity’ had indeed influenced rapport as suggested by Duke et al. (2018a), we would have expected a stronger association. ‘Cultural Similarity’ refers to the shared cultural background between the interviewer and interviewee, representing attributes which remain unchangeable during the interview. While past research indicates that similarity between parties enhances likability (Byrne, 1962), its impact in professional information-gathering settings remains unclear. Some studies suggest that despite cultural variations, there may be more commonalities than differences in the importance of affiliation needs (Boyer, 2000; Buss, 2001) and the value attributed to social relationships (Spencer-Oatey, 2005). Hence, it is arguably more important to increase similarities as a whole rather than focusing on solely ‘Cultural Similarity’. Matsumoto et al. (2023) found that perceptions of ‘getting along’ and ‘friendliness’ may be comparable across cultures. However, they also indicated that there were some cultural differences in rapport judgments, particularly in relation to mutual respect and perceived seriousness of the interaction. Considering these diverse cultural perspectives, it is evident that understanding and navigating cultural nuances are paramount for fostering effective rapport across different contexts. However, we still have little understanding of the dynamics underlying rapport, let alone its susceptibility to cultural influences (Hope et al., 2022).

Combining the results from both convergent and discriminant validity analyses, the Rapport-Pro exhibited strong construct validity overall. Having construct validity indicates

that the Rapport-Pro effectively measures the theoretical construct of rapport as intended, ensuring that it accurately captures the underlying concept of rapport in information-gathering contexts. Nevertheless, these findings need to be complemented by additional indicators of validity to establish the measure as a reliable tool to assess rapport.

Concurrent Validity

Examination of the concurrent validity of the measure revealed that the Rapport-Pro was successful in detecting variations in rapport. The results showed that ratings of rapport increased proportionally when the presence of rapport increases with the manipulations. As opposed to Chapter 4, the effect was not found across all variations of rapport included in the conditions. While there was an observed increase in rapport ratings when transitioning from a condition characterised by poor rapport to those featuring elevated rapport levels, no significant distinction was evident between moderate and high levels of rapport depicted in the stimulus videos. The absence of a discernible effect could be attributed to the methodology involving video stimuli to manipulate different rapport levels. Specifically, the videos employed in Study 2 were sourced from a separate study conducted outside the scope of the current thesis, wherein a rapport-building training program was administered. The video depicting poor rapport levels was recorded prior to the training sessions, whereas the moderate and high levels of rapport were captured after the completion of the training sessions. As a result, the distinctions in rapport skills exhibited by the interviewer might have been less discernible among the videos depicting moderate and high levels of rapport, thus influencing the results of the study. This interpretation is further supported by the manipulation checks that investigated whether the same pattern of results was found when examining the differences between the videos using other measures of rapport and associated constructs. For example, no differences were found in participants' perceptions of rapport

between videos depicting moderate or high rapport skills when using Duke et al.'s (2018a) RS3I rapport measure.

The examination of the subcomponents of rapport also revealed an increase in participants' rating for each component between poor and high levels of rapport, further supporting the scale's ability to detect differences of rapport. Similar to ratings of overall rapport, the components of *mutual connection*, *paying attention*, *building a relationship* and *being approachable* all increased when exposed to a transition from poor levels of rapport to both moderate and high levels of rapport. However, *being professional* was found to only increase between the poor to high conditions of rapport. Interestingly, this finding suggests that the Rapport-Pro might possess sensitivity to detect variations at the component level. More importantly, it implies that different components may contribute to the shared variance of rapport to varying degrees. Study 2 did not control for the specific components being portrayed in the videos. Therefore, it is challenging to determine whether the Rapport-Pro detects the presence of a particular component or if the interaction between each component reinforces the presence of others. Currently, there is limited research examining the foundations or relative contributions of components of rapport (Gabbert et al., 2021; Neequaye & Mac Giolla, 2021). No research has explored the underlying mechanisms of rapport, leaving a notable gap in understanding how different components interact to establish rapport before it influences cooperation and in turn, information disclosure. Similarly, only three studies have considered how rapport is built over time, and how it can be maintained throughout the interview or regained if lost (Collins & Carthy, 2018; Oostinga et al., 2018; Walsh & Bull, 2012). In addition to a lack of understanding of the underpinning of rapport, there also exists a significant gap in knowledge concerning its optimal application and solutions in the event of its breakdown. Additional research is necessary to further

understand what constitutes rapport and how to implement it effectively to maximize its benefits.

Acknowledging the methodological limitations of Study 2, Study 3 aimed to replicate findings demonstrating the efficacy of the Rapport-Pro by using an alternative manipulation approach and recording a set of videos specifically for Study 3. The results of the study supported the findings of Study 1, showing that participants' perceptions of rapport increased when at least one component of rapport featured in the video. In essence, this highlights the robustness of the Rapport-Pro in detecting variations in rapport across different experimental conditions. Manipulation checks examining the impact of varying levels of rapport depicted in the videos on associated constructs further corroborated the results obtained via use of the Rapport-Pro. Specifically, consistent patterns were observed between the constructs of *paying attention* and measures of Attention and Active Listening, *being approachable*, and Serenity, as well as *being professional*, Trust, and 'Expertise'. Such findings reinforce the validity of the Rapport-Pro, suggesting that it effectively captures rapport-related aspects depicted in the videos, affirming its efficacy as a rapport measurement tool. Furthermore, consistency across the Rapport-Pro and related constructs indicates that the Rapport-Pro may be reliable and precise enough to capture rapport at the subcomponent level.

Although the dynamic interaction between components of rapport remains unclear, the Rapport-Pro appears to be sensitive to subtle variations in rapport-related behaviours. Therefore, the findings from both studies indicate the Rapport-Pro's strong factorial, construct, and concurrent validity, affirming its precision and reliability as a tool for assessing rapport in professional information-gathering settings.

The Underpinnings of Rapport

In response to the findings of Study 2, Study 3 sought to dissect each component of rapport included in the Rapport-Pro to examine their individual relationships with one another in fostering rapport. Overall, perceptions of rapport increased regardless of the number of rapport components employed, indicating the effectiveness of each component in enhancing rapport. Furthermore, combining different rapport-building strategies appeared to augment multiple facets of rapport, encompassing *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional*. For example, perceptions of individual rapport components reached peak levels when all strategies were combined, except for *mutual connection*, which peaked when only building relationship strategies were implemented. This suggests that most behavioural components of rapport (*paying attention*, *building a relationship*, *being approachable*) interact synergistically to foster overall rapport. By contrast, *mutual connection* was particularly associated with *building a relationship* or *being approachable*. Specifically, *building a relationship* exhibited the greatest impact when strategies specific to its component were employed or when all components were utilised. This finding resonates with Study 1, where *building a relationship* emerged as the primary contributor to the shared variance of rapport. This finding also aligns with principles of similarity and affiliations, suggesting personalising an interview by emphasising similarities or common grounds enhance linking (Byrne, 1962).

Interestingly, *being professional* maintained consistently high scores across conditions, peaking in the combined condition, despite being controlled for throughout the study. This indicates that the presence of other rapport components might enhance perceptions of professionalism. This finding helps us to understand those of Study 2, suggesting that *being professional* was not detected between conditions where rapport levels were low to moderate. This could be attributed to the reduced presence of other rapport

components in the videos, hindering their potential interaction and amplification of professionalism. Research in professional information-gathering contexts, such as medicine, suggests that interpersonal skills (e.g., respect for others and empathy) are key elements of professionalism (Arnold, 2002; Cruess & Cruess, 1997; Hilton & Slotnick, 2005; Reynolds, 1994; Swick, 2000). In fact, humanistic qualities and integrity are crucial elements for the selection criteria to enter medical school (West & Shanafelt, 2007). Within medical settings, such skills have been considered as an integral foundation of the patient-physician relationship (Rosenow, 2000). In investigative settings, it is argued that investigators, like other professionals in information-gathering roles, necessitate (i) a willingness to listen attentively, (ii) subtle actions signalling engagement from investigators, and (iii) thoughtful response behaviours, including respect, empathy, openness, non-judgmental attitudes, and supportiveness (Shepherd & Griffiths, 2021). These strategies can all be linked to components of the Rapport-Pro, such as *being professional*, *being approachable*, and *paying attention*.

Consequently, these findings indicate a close interplay among *paying attention*, *being approachable*, and *being professional*, where the improvement of one component influences the others, reflecting essential skills required in professional information-gathering settings. These findings align with the fundamental objective of an information-gathering interview under the PEACE model in the UK: to gather the maximum amount of information with the highest degree of accuracy and to keep an open mind (Bull, October 2018). The College of Policing (2022) underscores the significance of professionalism, suggesting that individuals are more likely to provide accurate information when interviewed by a professional acting interviewer. This is further emphasised in the initial step of an interview, as outlined by the PEACE model, which emphasises the role of active listening skills in fostering and facilitating conversation with a source (College of Policing, 2022; Bull, 2018). Hence, it is

argued that *paying attention*, *being professional*, and *being approachable* all encompass skills that should be consistently employed to some extent throughout an interview.

Limitations

The findings of this chapter must be interpreted with transparent acknowledgement of the limitations of the research. While the results of the MANOVA suggested minimal impacts from multicollinearity, components of rapport are naturally correlated, and findings need to be interpreted accordingly. Additionally, the current studies represent the first attempt at examining the underpinning of rapport by isolating components of rapport. There is still a lot of uncertainty regarding how exactly each component interacts with another and how they cumulatively contribute to rapport. The manipulations employed across the studies presented in this chapter featured videos portraying a role-play scenario of an interviewer and a cooperative interviewee, assessed from an observer's standpoint. Consequently, questions may arise regarding the ecological validity of the studies in terms of (i) how rapport would be assessed in an in-person police interview setting, (ii) how various assessors' viewpoints might influence validity and the dynamics of rapport, and (iii) how rapport would be established in situations where the witness is uncooperative. Assessing rapport within realistic settings is challenging, and only one measure of rapport has been generated based on realistic investigations (see Alison et al., 2013). Validation is not a concrete tick-box exercise and needs to be carried out across various contexts including a realistic in-person interview setting. Additionally, while there are different versions of the Rapport-Pro, only the observer standpoint has been assessed and validated. Therefore, additional research is necessary to verify whether the current findings replicate across versions of the Rapport-Pro and whether dynamics of rapport are affected by the perspectives of the assessor. Finally, studies indicate that in instances of resistance from a suspect, interviewers often turn away from their initial attempts to establish or maintain rapport, and instead adopt a more confrontational approach

(Izotovas et al., 2021). The effect of different types of interviews (e.g., witness vs. suspects) on the Rapport-Pro and the dynamics of rapport is yet to be examined.

Conclusion

In conclusion, this chapter presents evidence supporting the reliability, stability, and validity of the Rapport-Pro through assessments of factorial, construct, and concurrent validity. The findings underscore the complexity of rapport dynamics and highlight the intertwined nature of its constituent components in shaping perceptions of rapport in professional interactions. Key results suggest that *paying attention*, *being approachable*, and *being professional* should be regarded as fundamental components of rapport, established early in the interview process, and maintained throughout. In contrast, *building a relationship* aims to personalise interactions, thereby contributing to overall rapport while increasing the likelihood of establishing *mutual connection* or synchrony between the parties involved.

Chapter 6

General Discussion

Chapter Summary

In this final chapter, an overview of the aims and findings of the thesis are presented and discussed. It starts by synthesising and contextualising the key findings with reference to existing empirical and theoretical research. Theoretical and practical implications of the findings are then discussed, focusing on how the findings can (i) contribute to advancing theoretical frameworks of rapport, and (ii) inform practical strategies for rapport building in professional contexts. Potential impacts of the research are also explored, including current and future steps that can be taken to disseminate the findings to relevant academics and practitioners. Limitations of the research are addressed, alongside proposed avenues for future research. The chapter concludes with a concise summary of the key insights and contributions of the thesis as a whole.

Summary of the Thesis

The benefits of rapport in fostering cooperation and facilitating information disclosure have been consistently demonstrated, leading to international recommendations endorsing its use (Achieving Best Evidence, Home Office, 2022; Army Field Manual, Department of the Army, 2006; Cognitive Interview, Fisher & Geiselman, 1992; NICHD Protocol, Lamb et al., 2007; PEACE model, CPTU, 1992; Kelly et al., 2015; Redlich et al., 2014; Russano et al., 2014). Recent advances in investigative interviewing have led to the development of the Mendez principles guiding ethical and effective interviewing practices, which again identifies rapport as a fundamental skill conducive of non-coercive environments and information disclosure (Mendez, 2021).

While the growing body of work on rapport has positively impacted on investigative interviewing policies and practice, it has also sparked debates associated with the definition, operationalisation, and measurement of rapport, urging researchers to collaboratively establish a working definition and framework of rapport (Neequaye & Mac Giolla, 2022). Regarding the *definition*, Neequaye and Mac Giolla's work (2022) clearly illustrates the problem of having multiple definitions of rapport. Their analysis of 228 relevant publications revealed that only 32 explicitly defined rapport, yielding 22 different definitions with varying usage of rapport attributes. As a result, different interpretations of rapport contribute to inconsistencies in its operationalization and assessment. Regarding the *operationalisation* of rapport, research has identified a number of behavioural correlates of rapport, as well as demonstrating their positive impact on cooperation and information disclosure (Abbe & Brandon, 2013; 2014; Brimbal et al., 2019; Gabbert et al. 2021). However, the underlying dynamics of rapport have yet to be fully understood, thus limiting clear guidance on how to best establish rapport across various contexts. Alongside influential theoretical models that help understand how rapport develops naturally in a social context (Tickle-Degnen &

Rosenthal, 1990), recent reviews have focused on understanding how (relatively rapid) rapport can be developed in professional contexts (Abbe & Brandon, 2013; 2014; Gabbert et al., 2021). For example, Gabbert et al.'s (2021) systematic review examined common verbal and nonverbal behaviours used to build rapport in professional information gathering contexts (e.g., investigative interviews, counselling sessions) and categorised them according to the underlying goal of the behaviour: demonstrating attention (e.g., via active listening and eye-contact), presenting oneself as being approachable (e.g., via relaxed body language and conversational tone of voice), and taking steps to building a relationship (e.g., via personalising an interview and disclosing information about oneself). Regarding the *measurement* of rapport, Gabbert et al.'s (2021) review also evidenced a lack of consistency across measures, and highlighted tendencies for researchers to develop their own measures rather than using existing ones. Hence, there is currently no commonly endorsed measure to assess rapport.

Building upon Gabbert et al.'s (2021) work, the current PhD started with a systematic review to examine all (available) published measures of rapport that had been developed for use in professional information-gathering contexts, including investigative, health, therapeutic, business, and educational settings. A total of 111 research articles and 126 measures were evaluated in light of best practice standards in scale development and validation (AERA, APA, NCME, 2014; Boateng, 2018). Conceptualisation of rapport was examined with reference to theorised components of rapport; (i) *paying attention*, (ii) *personalising the interview/interaction*, (iii) *being approachable*, and (iv) *establishing a mutual connection*. The findings of the systematic review informed a thorough understanding of how rapport is defined, operationalised, and measured, as well as an understanding of the challenges arising from the lack of consensus in each of these areas. This guided the development and validation of a new measure of rapport.

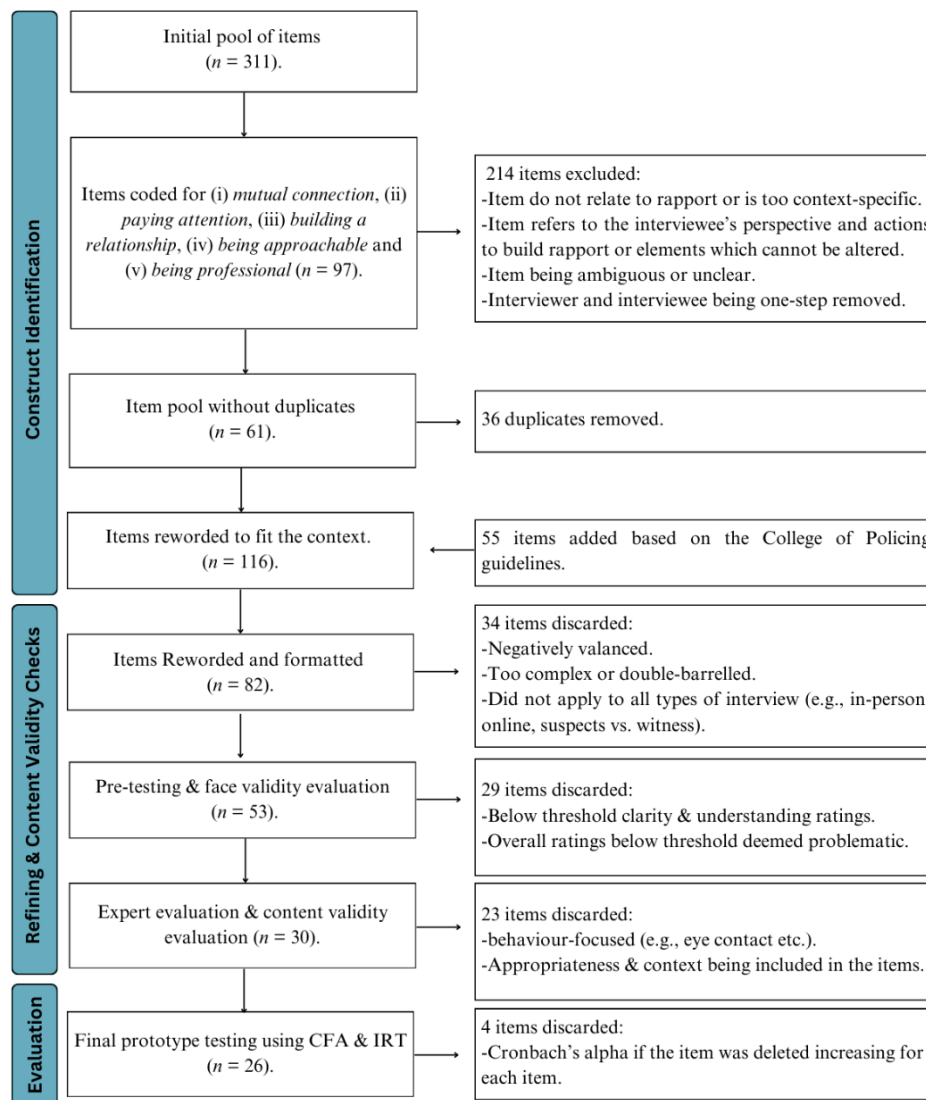
While existing measures have made valuable attempts at quantifying rapport (e.g., Alison et al., 2013; Duke et al., 2018), concerns have been raised regarding their reliability, content validity, and theoretical underpinnings (see Chapters 2 and 3). Hence, it was argued in Chapter 3 that there is value in developing a new comprehensive, synthesised measure of rapport (see also Abbe & Brandon, 2013; 2014; Gabbert et al., 2021). This new measure drew upon existing measures of rapport compiled in the systematic review (see Chapter 2), and current theoretical understandings of rapport (Abbe & Brandon, 2013; 2014; Gabbert et al., 2021; Neequaye & Mac Giolla, 2022; Tickle-Degnen & Rosenthal, 1990), which together provided a strong foundation. At every stage of development, standards in scale development and validation were adhered to (AERA, APA, NCME, 2014; Boateng, 2018; Hughes, 2018).

Gabbert et al.'s (2021) conceptualisation of 'professional rapport' was selected as a sensible working definition to inform the development process of the Professional Rapport scale (Rapport-Pro), defining rapport as: "an intentional use of rapport behaviours in an attempt to facilitate a positive interaction with another person that might or might not lead to establishing genuine rapport" (p. 330). From here, a theoretical framework was developed, encompassing findings from relevant reviews and existing theoretical concepts of rapport (Abbe & Brandon, 2013; 2014; Brouillard et al., 2024; Gabbert et al., 2021; Tickle-Degnen & Rosenthal, 1990). This framework proposed that 'professional rapport' comprised key components such as (i) *establishing a mutual connection*, (ii) *paying attention*, (iii) *building a relationship*, (iv) *being approachable*, and (v) *being professional*. After a thorough process of iterative steps, including (i) coding items based on the theoretical framework, (ii) removing duplicates, (iii) pre-testing items for their clarity and readability, and (iv) a qualitative expert evaluation to ensure of the quality of the measure, the final Rapport-Pro prototype comprised 30 items. Each of these items related to one of the theoretical components of rapport (Chapter 3).

In Chapter 4, the final prototype of the Rapport-Pro was subjected to examination of its model fitness with observed data, internal consistency, item reliability, and concurrent validity. The analysis suggested the exclusion of four items, resulting in a 26-item solution which demonstrated a good model fit with observed data, exhibited strong internal consistency, and showed early signs of concurrent validity, effectively capturing variations in rapport levels. The final development process is presented in Figure 8. Building on the findings from Chapter 4, the validation of the measure was further assessed across two studies (see Chapter 5). These studies aimed to complement previous findings regarding the reliability, factorial validity, and concurrent validity of the Rapport-Pro, while also exploring other indicators of construct validity such as convergent and discriminant validity with existing measures of similar and dissimilar constructs (see Study 2, Chapter 5). Additionally, the dynamics of each component of rapport included in the Rapport-Pro were examined (see Study 3 Chapter 5). Across all studies, the validity of the Rapport-Pro was confirmed by consistently demonstrating good factorial, concurrent, and construct validity. Findings from Study 3 highlighted the complexity of rapport dynamics through the intertwined nature of its components in contributing to perceptions of rapport (see Chapter 5).

Figure 8

The summary of the Scale Development Process of the Rapport-Pro



Assessments of Existing Measures of Rapport

Key features and psychometric properties of existing available measures of rapport were evaluated. Significant inconsistencies between measures of rapport were found, alongside a tendency to develop single-use measures, minimal adherence to recommendations in scale development and validation, and a lack of consideration of the intended audience of the measure to ensure its appropriateness and reliability. Further findings highlighted that methodological limitations with regard to adhering to standards in

scale development and validation were frequent. These standards emphasise the importance of clarity in a measure's characteristics to facilitate its subsequent use (AERA, APA, NCME, 2014). However, nearly half of the psychometric measures of rapport failed to explain how their scores were generated, indicating that the key characteristics of the measures were often missing. Regarding reliability checks, where this information was provided by researchers, it was found that psychometric scales were mostly reliable. However, some researchers did not assess the reliability of their measure at all, and a small number reported poor reliability, such as the consistent poor reliability found for the observational rapport measure, ORBIT (Alison et al., 2013; Kim et al., 2020; Surmon-Bohr et al., 2020).

The validity of each measure of rapport was also examined, finding in general a major absence of validity testing across the majority of measures of rapport. Duke et al.'s (2018) work is one exception to this, demonstrating factorial, construct, and concurrent validity of their measure. However, limitations remain, as discussed in Chapter 2, such as a lack of theoretical underpinning for some of their components of rapport. A major absence was also found across studies regarding considerations of appropriateness and consequences, which are crucial validity checks. For instance, Alison et al.'s (2018) ORBIT model encompasses intricate concepts that may necessitate specialised training (see Alison et al., 2013). Consequently, its applicability in experimental settings could be constrained, particularly if researchers lack the requisite resources or expertise to implement it effectively. Another example is Duke et al.'s (2018) inclusion of 'cultural similarity' as a component of rapport, which presents practical challenges, as this is often out of control of the interviewer. Ultimately, none of the available measures of rapport have explored the dynamics of their proposed rapport measures, thereby failing to inform theory and clarify how rapport can be established.

Development and Validation of a New Measure of Rapport; the Rapport-Pro

The findings of the systematic review of available measures of rapport revealed limitations of the literature as a whole, as well as limitations with individual measures of rapport (summarised above). However, the analysis of items within each measure provided an excellent starting point for developing a new measure of rapport, as well as providing insight into a theoretical understanding of ‘professional rapport’ which is best understood as the process whereby rapport is sought (cf. achieved) via key interpersonal skills aimed at establishing a mutual connection, which may or may not be successfully established (see Gabbert et al., 2021). It is argued that the process of developing rapport within a professional context is significantly different to developing rapport in a social context (see Chapter 1 for further discussion). The item analysis of existing measures of rapport (used in professional information gathering contexts) confirmed that professional rapport is more goal-based (e.g., focusing on behaviours to demonstrate professionalism) and provided a strong starting point of how to measure it.

The recommendations outlined in Chapter 2 were directly implemented by promoting a systematic and thorough development of a new measure based on recommended standards (AERA, APA & NCME as cited in Linn, 2011; Boateng et al., 2018; DeVellis & Thorpe, 2021), including the following steps: (i) the construct and items identification, (ii) the pre-testing item rewording and reduction, (iii) the content validity check using an expert evaluation, (iv) the survey administration, item reduction, extraction of factors and tests of dimensionality, and (v) reliability evaluation. Additionally, (vi) validity was repeatedly tested across Chapters 4 and 5 considering various evidence such as factorial, concurrent, and construct validity of the Rapport-Pro, providing at least two types of evidence for the appropriateness and accuracy of the measure as recommended (see AERA, APA & NCME as

cited in Linn, 2011; Boateng et al., 2018; Hughes, 2018). The key features of the development process are concisely presented below.

The Development Process

Construct Identification.

Methodologically, the development of the Rapport-Pro represents the first measure of rapport to consolidate various recommended practices to ensure the quality of its items. The item generation process followed a combined deductive and inductive approach. A deductive approach was employed by reviewing available measures of rapport to identify potential items (Raykov & Marcoulides, 2011). Simultaneously, an inductive approach involved generating items based on individuals' responses through a pre-testing study, where participants provided ratings for each item. Boateng et al. (2018) recommend this combination of approaches to define the domain and identify most suitable items for assessment. In this case, the systematic review and theoretical framework of rapport provided the foundation for defining the domain, which was further refined to identify its individual items. As discussed in Chapter 1, the absence of consensus regarding the definition of rapport presents significant obstacles to both its measurement and theoretical comprehension. However, the measure development and psychometric evaluation process not only facilitates theoretical advancements (Booth & Murray, 2018) but also contributes to informing real-world decision-making (Hughes & Batey, 2017). Consequently, prior to evaluating the measure, the quality of the items was verified to ensure their suitability for the context of investigative interviewing and their alignment with a clear theoretical framework.

Content & Face Validity.

The content and face validity of the Rapport-Pro was assessed through a pre-testing study and expert evaluation, affirming the items' alignment with rapport (DeVellis & Thorpe,

2021). Content validity typically requires evidence of relevance, representativeness, and technical quality with the construct, achievable through expert and target population evaluations (Boateng et al., 2018). While the systematic item generation and theoretical framework partly addressed these aspects, an expert evaluation and pre-testing study were conducted ensuring alignment with the measures' objectives, the appropriateness of the items and mitigation of bias in the measure (Haynes et al., 1995).

Pre-testing of the Rapport-Pro, incorporating feedback from the target population regarding the clarity and understanding of the items, demonstrated face validity and facilitated item reduction. Subsequently, 12 experts in investigative interviewing further assessed the appropriateness of the items, surpassing the recommended inclusion of five to seven experts, as larger panels enhance the robustness of the evaluation (Haynes, 1995; Lynn, 1986). Expert evaluations often employ quantitative systematic ratings, whereas target population assessments rely on qualitative interviews (Boateng et al., 2018). Conversely, the current thesis adopted a quantitative systematic approach for the pre-testing while the expert evaluation followed a qualitative approach, directly applying experts' feedback to refine the Rapport-Pro. Although Duke et al. (2018a) used a similar pre-testing approach to reduce their item pool based on students' observation in relation to a recorded interaction, no prior measure in the investigative interviewing context had undergone expert evaluation. Following these phases of refinement, the initial 30-item prototype of the Rapport-Pro was established and deemed suitable for subsequent administering and evaluation of its psychometric properties.

Evaluation

The development of the Rapport-Pro was completed by administering the Rapport-Pro in a survey to explore its factorial and theoretical structure as well as its reliability. Initial reliability assessment revealed strong internal consistency corroborated by Item Response

Theory (IRT) analysis highlighting the measure's ability to effectively differentiate between different degrees of rapport. As recommended, this means that the Rapport-Pro successfully forms a single cohesive or multidimensional domain contributing substantively to the measure of rapport (Boateng et al., 2018). The theoretical structure of the measure was assessed and replicated in Chapters 4 and 5, supporting a second-order model. In this model, the five components functioned as first-order factors, collectively contributing to establishing rapport as the second-order factor, thereby confirming the stability of the Rapport-Pro's theoretical structure, whilst reducing the number of items from 30 to 26 in total.

Such findings align with previous research advocating for a multi-component approach to rapport (see Abbe & Brandon, 2013; 2014; Duke et al., 2018a; Gabbert et al., 2021). Further, these findings align with researchers challenging the notion that data can be explained realistically by a single common factor (Reise et al., 2013), and agree with other researchers who emphasise various interpersonal skills or rapport components over a single abstract concept of rapport (e.g., Magee, 2020). For example, the Rapport-Pro's structure inherently resonates with Tickle-Degnen and Rosenthal's model (1990), encompassing similarities such as *paying attention* (mutual attention), *mutual connection* (coordination), *being approachable*, and *being professional* (positivity). In contrast to this tripartite model, the Rapport-Pro allows for rapport to be theorised and applied in professional contexts tailored for investigative interviews, which inherently differ from naturally occurring rapport in social settings. In social settings, rapport naturally emerges over time through shared autonomy and common experiences, whereas in investigative contexts, a power asymmetry often makes rapport instrumental and time constrained (Oxburgh et al., 2023). While Abbe and Brandon (2013) adapted the tripartite model for investigative contexts, the model categorises rapport strategies without considering their interactions or dynamics and lacks effective testing to determine if it fits observed data. This is a consistent issue in the literature

with models combining various strategies or constructs, such as rapport and trust, without examining their underlying interactions (Brimbal et al., 2021). Unlike models solely focused on outcomes, like cooperation or listing rapport strategies, the Rapport-Pro builds on existing models to map the unique contributions of each component. Grounded in existing theories of rapport, it integrates novel insights regarding rapport strategy objectives (Gabbert et al., 2021) while differentiating itself from concepts like trust (Hillner, 2023). This approach offers to expand existing models of rapport, allowing for a better understanding of how rapport contributes to improved cooperation and information disclosure.

Validation

Findings across Chapters 4 and 5 expanded on the face and content validity of the Rapport-Pro presented in Chapter 3 by demonstrating the concurrent and construct validity of the Rapport-Pro, essentially demonstrating its stability and reliability as a tool for assessing professional rapport. The Rapport-Pro consistently detected varying degrees of rapport, reflecting its effectiveness in detecting the presence of rapport components being implemented. Therefore, the findings of this thesis indicate good concurrent validity of the Rapport-Pro, reflective of its ability to measure rapport. So far, only one of the common measures of rapport for investigative contexts has directly considered and successfully verified the concurrent validity of their measure (see Duke et al., 2018a). Aside from factorial validity, Alison et al. (2013) found an association between the presence of Motivational Interviewing behaviours (e.g., rapport), greater adaptive interviewing skills and information disclosure. Accordingly, they provide evidence of the accuracy of their measure, but fall short of directly demonstrating the appropriateness of their measure within the investigative context.

To complement the findings summarised above, Study 2 (Chapter 5) evaluated the construct validity of the Rapport-Pro revealing strong associations between Rapport-Pro

scores, previous measures of rapport (Duke et al., 2018a; Vallano & Schreiber Compo, 2011) and rapport-related constructs (attention, serenity, trust, expertise, active listening). Moreover, interrelations among the Rapport-Pro components with related constructs were observed, indicating construct validity even at the component level. For instance, *paying attention* exhibited the strongest correlations with associated constructs such as attentiveness and active listening scales from other measures. Additionally, the Rapport-Pro exhibited signs of discriminant validity, indicated by weak correlations between rapport, its subcomponents, and unrelated constructs such as hostility, as supported by previous research (Oostinga et al., 2018).

Despite Duke et al.'s (2018a) inclusion of 'Cultural Similarity' as a component of rapport, the Rapport-Pro and its components were not strongly related to 'Cultural similarity'. While cultural similarity aligns with the idea that similarity improves likability (Byrne, 1962), its relevance in professional settings remains uncertain. For example, in a study examining professionalism in medical settings, it was found that patients regarded similarity of beliefs, values, and communication style with their physician as important when rating professional and emotional support, regardless of similarity with the physician's ethnic background (Alizadeh & Chavan, 2020). Other researchers have found differences in factors affecting patient-physician relationships across cultures, suggesting that factors influencing satisfaction vary among cultures, with cultural similarity being more impactful in certain cultures such as Asian-Americans (Lin & Guan, 2002). In sum, while the similarity hypothesis might be relevant to building rapport, it is clear that factors other than cultural similarity may be more impactful and contextually relevant when developing rapport in investigative interviews. It is important to note, however, that the majority of papers reviewed in Chapter 2 are 'Western-centric', featuring theories and data from Western contexts, and thus limiting relevance and applicability to other cultures. To date, only one study has

investigated cultural disparities in rapport-building strategies indicating that while many facets of rapport appear consistent across cultures, nuanced differences exist that warrant careful consideration for their appropriate application (Ng et al., 2023). For example, Malaysian participants recognised the importance of active listening but expressed a preference for a more indirect and unstained eye contact. Thus, more research is needed to understand the role of cultural differences on rapport building in information-gathering contexts (Hope et al., 2022).

Combining the results from convergent and discriminant validity analyses, the Rapport-Pro demonstrated strong construct validity overall, indicating its effectiveness in measuring the theoretical construct of rapport as intended, and capturing the underlying concept of rapport in information-gathering contexts. With regard to concepts of validity, the overall findings of this thesis can be summarised as supporting the accuracy and appropriateness of the Rapport-Pro using different types of evidence collected at different times as recommended (AERA, APA, NCME, 2014; Boateng et al., 2018; Hughes 2018). Throughout the development and validation process, the Rapport-Pro has indicated good content, factorial, concurrent and construct validity, thereby addressing current limitations in how rapport is assessed and promoting the Rapport-Pro as a reliable and validated tool.

Components of Rapport

Alongside validating the Rapport-Pro, Chapter 5 explored the interactions between components of rapport (*mutual connection, paying attention, building a relationship, and being professional*) and their roles in establishing rapport. The theoretical framework proposes that a range of interpersonal and professional skills that interviewers can employ to seek a mutual connection, ultimately leading to the establishment of rapport. Consequently, the primary objective is not necessarily to establish a mutual connection, but rather to assess

the needs of the source and implement key strategies aimed at fostering a connection with them. The interactions reported in Chapter 5 indicate that the mere presence of any single component of rapport, enhances perceptions of rapport or its other subcomponents. This finding contrasts with Abbe and Brandon's (2013) suggestion that neglecting to establish a mutual attentiveness will inevitably affect other aspects of rapport. As a result, the type of strategy employed is not necessarily the most important factor, rather the effort implemented to establish rapport with an interviewee ultimately elevates the perceptions of rapport.

By manipulating rapport components individually, Study 3 (Chapter 5) lends support to existing findings and further advances the understanding of the dynamics of rapport. Results indicated that *paying attention*, *being approachable*, and *being professional* remained fundamental components of rapport, necessary in early stages in the interview process and sustained throughout. In particular, professionalism, although maintained constant across conditions in the study, was affected by the presence of other components of rapport leading to greater perceptions of professionalism when *paying attention* or *being approachable* were also present. Therefore, the interactive nature of the Rapport-Pro's components was directly highlighted, suggesting that rapport is the result of multi-component interaction as previously proposed by other researchers (e.g., Magee, 2020). While all rapport components significantly contributed to rapport, *building a relationship* emerged as the most influential in fostering rapport and facilitating a *mutual connection*. In fact, overall perceptions of rapport were found to be established through a combination of rapport components, with *building a relationship* contributing the most to the perception of rapport, followed by *being approachable*, *paying attention*, and finally *mutual connection*. Therefore, the interactive hypothesis of rapport is reinforced suggesting that rapport is built through the integration of different components, such as *building a relationship*.

Only two studies have compared different components of rapport in relation to information disclosure. One compared relationship-based (e.g., a combination of strategies associated with *being approachable*, and *building a relationship*) versus procedure-based (e.g., a combination of strategies associated with *being professional* and *being approachable*) approaches to building rapport, finding that there was no difference between either approach in information disclosure (although the procedure-based approach was more likely to elicit confessions from suspects than the relationship-based approach; Huang & Teoh, 2019). Conversely, Collins and Carthy's (2018) comparison of the positivity, attention, and coordination elements of the tripartite model (Tickle-Degnen & Rosenthal, 1990) suggests no influence of the positivity (e.g., *being professional* or *being approachable*) element on the amount of information disclosed. However, attention (e.g., *paying attention*) and coordination (e.g., *mutual connection*) were found to be most frequently used and positively correlated with information disclosure (Collins & Carthy, 2018). Inconsistencies in the findings could be explained by models suggesting that rapport does not directly affect information disclosure but rather impacts on an interviewee's cooperation which, in turn, affects information disclosure (Brimbal et al., 2021). Nonetheless, the findings of the current thesis align with previous research, indicating that components of rapport affect information disclosure through an interactive process distinct from the one that builds rapport.

It is possible that each component interacts and leads to information disclosure. Based on Collins and Carthy's (2018) findings, *building a relationship* likely enhances coordination (e.g., *mutual connection*), leading to greater information disclosure. Additionally, attention (e.g., *paying attention*) is indicated as integral to both rapport development and increased information disclosure. In fact, *paying attention* was found to be moderately contributing to rapport and commitment to share in Study 2 (Chapter 5). While the current thesis did not consider information disclosure, the Rapport-Pro components were correlated with

commitment to share, described as an outcome of the development of rapport rather than a component (RS3I, Duke et al., 2018a). In Study 2 (Chapter 5), commitment to share was most associated with *mutual connection* and *being professional*, followed closely by *being approachable*, *paying attention* and *building a relationship*. Although these findings need to be interpreted with caution, they suggest that information disclosure may be more affected by components like *mutual connection* and *being professional* and indicate a different type of interaction than the one which is used to build rapport. While *mutual connection* and *being professional* are most likely to be associated with greater cooperation, and thus greater information disclosure, rapport seems most likely to be developed using *building a relationship* and *being approachable*. Although more research is necessary to confirm these tendencies, the findings suggest that information disclosure may be influenced by a different interaction of components than those involved in building rapport. Hence, Study 3 in Chapter 5 expands on the limited evidence suggesting that rapport and information disclosure are affected differently by interactions between rapport components, thus supporting an interactive hypothesis for the establishment of overall rapport. To build upon the interesting initial findings, more research is needed to clarify the relationships between Rapport-Pro, its subcomponents, and the relationship between rapport and information disclosure.

Implications of the Research

Currently, the Rapport-Pro is the only measure of rapport for use in professional information-gathering contexts that has been developed based on a systematic and collaborative approach, following rigorous standards in scale development and validation. The development and validity of the Rapport-Pro were approached holistically, considering classic and innovative techniques to increase the precision of the measure. For example, the development did not only focus on a concurrent validity check but also examined the content validity of the measure with an expert evaluation which has rarely been completed in this

field. Ultimately, the development of the Rapport-Pro comes in response to researchers calling for (i) the development of an effective tool for assessing rapport (Abbe & Brandon, 2013; Gabbert et al., 2021; Nahouli et al., 2021; Vallano & Schreiber Compo, 2015), and (ii) the establishment of a collaborative and working framework (Neequaye & Mac Giolla, 2022) in order to inform guidelines and practices. Theoretical and practical implications are discussed below.

Theoretical Implications

As well as demonstrating the reliability and validity of the Rapport-Pro as a new psychometric measure, the findings of this thesis have important theoretical implications. The measure draws upon and synthesises recent theories of rapport as well as reviews that have considered different components of rapport. Within the context of investigative interviewing, it also addresses the theoretical and methodological limitations of existing scales (Alison et al., 2013; Collins & Carthy, 2018; Duke et al., 2018a; Vallano & Schreiber Compo, 2011). In particular, the systematic and evidence-based development process included recommended techniques to ensure of the quality of the Rapport-Pro such as an expert evaluation and the use of IRT, which has never been applied to rapport assessments previously. Similarly, the validation of the Rapport-Pro was informed by current debates surrounding the nature of validity (Hughes, 2018), and encompassed a holistic approach providing a range of evidence demonstrating the effectiveness of the measure. In sum, the Rapport-Pro built on previous research and applied methodological rigour to generate a reliable tool, directly targeting the lack of consistency in rapport assessment.

The Rapport-Pro also allows for the underlying process of rapport to be explored effectively, examining how the different components of rapport interact during an interview and might lead to higher disclosure of information. Prior research has not allowed for an

understanding of rapport in this context, which has been repeatedly highlighted as a gap in the literature (Neequaye & Mac Giolla, 2022). The findings of this thesis offer new avenues of investigation, which have the potential to provide valuable insights regarding the theoretical understanding of rapport in relation to cooperation and information disclosure. For example, researchers can investigate the components of rapport together or in isolation and can explore which component may be most effective while taking into account varied interview timings (e.g., beginning, middle, end) or contexts (e.g., accusatorial vs. rapport-based interviewing).

Perhaps most controversially, the Rapport-Pro measure considers *mutual connection* between an interviewer and interviewee to be an aim rather than a necessity. As such, the Rapport-Pro allows for the measurement of a mutual connection, while avoiding any assumptions regarding its occurrence. This will, in turn, inform current debate as to whether a mutual feeling of rapport is necessary to reach an optimal outcome in a professional setting. Further, given that the Rapport-Pro includes different versions (e.g., Rapport-Pro: Interviewer, Interviewee, and Observer), it will inform (i) whether rapport is indeed mutual (note that only one prior study has examined correlations of perceived rapport between different parties, see Richardson & Nash, 2022), and (ii) which party's rapport ratings relate most to cooperation and information disclosure. Current measures do not allow for this, despite advocating that mutual rapport is necessary. ORBIT (Alison et al., 2013) measures interpersonal behaviours and indicators of interview skills but has been critiqued for not explaining how the measure relates to the feeling of rapport as a construct (Collins & Carthy, 2018), or how rapport is perceived by an interviewee (Duke et al., 2018a). The Rapport-Pro therefore offers an opportunity to address several neglected research areas.

Supporting the idea that professional rapport is qualitatively different to our understanding of mutual rapport in social settings, Chapter 1 presented research findings that

rapport is achieved differently across various interaction types (social vs. professional) and within each type (e.g., across different professional settings). For example, significant differences have been reported in the objectives of interactions between professional settings, such as between therapy and investigative interviewing, resulting in inherent disparities in professional roles (counsellor vs. interviewer) (Oxburgh et al., 2023). Therefore, rapport measures need to be tailored to specific professional contexts to accurately capture its essence. The Rapport-Pro, developed as a synthesis of existing measures and tailored to investigative interviewing, is particularly suited for rapport driven by an instrumental motivation. Nonetheless, it offers a systematic approach that could be adapted for other professional information-gathering settings in the future, pending appropriate adjustments and testing to confirm its suitability. For example, Gremler and Gwinner's (2000) measure, initially designed for assessing rapport in marketing relationships, was later adapted for educational settings (Frisby & Martin, 2010), hospitality (Hwang et al., 2013), and business (Grandey et al., 2019). Arguably, there are existing measures of rapport used in investigative interviewing that are based on theories from counselling psychology (see Alison et al., 2013), or therapeutic settings (see Vallano & Schreiber Compo, 2011), however they often fail to address the unique dynamics between investigative and therapeutic contexts. Transferring strategies to develop rapport between professional contexts may not align with differing needs or objectives of such context, thus impacting rapport development. Therefore, while the components of the Rapport-Pro may be consistent across professional information-gathering contexts, associated strategies or items within each component may require tailoring to suit specific professional interactions.

Practical implications

Rapport is consistently viewed as an essential component in eliciting cooperation and high-quality information and is recommended by most official interviewing guidelines

(Achieving Best Evidence, Home Office, 2022; Army Field Manual, College of Policing, 2022; Department of the Army, 2006; Cognitive Interview, Fisher & Geiselman, 1992; NICHD Protocol, Lamb et al., 2007; PEACE model, CPTU, 1992). However, building and maintaining rapport is a skill that is particularly difficult to implement in practice and requires training (Griffiths & Milne, 2006). In fact, police officers often report their uncertainty regarding how rapport should be implemented in their daily practices (Pounds, 2019). Others report a general feeling of being inadequately equipped to build rapport effectively with an interviewee (Dando et al., 2008). This low confidence in interpersonal rapport skills amongst professionals is likely compounded by substantial cuts in Home Office grants to police authorities (HMIC, 2012) which have led to continued resource restrictions, and reductions in recurrent training. However, it is also likely to partially arise from a lack of understanding of what rapport might look like in a professional context. The Rapport-Pro provides a toolkit of rapport strategies, promoting practical insight by demonstrating how an individual performs on each component of rapport, with the possibility to target particular components which might require further practice. The potential empirical advance associated with the Rapport-Pro means that its application in research can directly inform official guidelines in how rapport is established and operationalised, building up on official guidelines already provided.

Impacts

The present thesis needs to be considered in light of the impacts of its constituent studies. The findings of the current thesis have been used to inform a range of (i) knowledge exchange events, and (ii) products focused on addressing current issues in defining, assessing, and operationalising rapport.

Knowledge Exchange

In the last year of the PhD, stakeholders involved in the formulation of training protocols and guidelines for investigative interviewing were invited to Goldsmiths, University of London. This assembly generated in-depth discussions regarding the challenges inherent in building rapport, while emphasising the need for the development of supplementary resources, such as a dedicated online platform clearly outlining the components of rapport and their operationalisation. Subsequently, I joined the Organising Committee of a second knowledge exchange forum held in Winchester, collaboratively organised by three prominent academic institutions: Goldsmiths, University of London, University of Portsmouth, and the University of Winchester. Scholars specialising in investigative psychology, with a particular interest in rapport building, discussed the contemporary issues surrounding the definition, operationalisation, and assessment of rapport. An important outcome of the event was the general agreement to sustain ongoing dialogue concerning rapport building and its challenges, with the aim of facilitating a shared consensus and standardised approach to rapport establishment. Notably, this constitutes the first instance in which a collective assembly of scholars and practitioners has convened to address contemporary challenges associated with rapport strategies. Such a collective reflects a direct response from scholars and practitioners to the current issues in definition, assessing and operationalising rapport and demonstrates the necessity of the current thesis.

Products

To effectively conclude this thesis, the key empirical findings were condensed and presented on a memory aid card that can be used to remind users of the predominant strategies associated with each component of rapport as posited within the Rapport-Pro framework (see Appendix B). This memory aid card is tailored to reinforce two pivotal skills necessary to law enforcement: appropriate questioning and rapport building. The card, which

fits easily into a pocket or wallet, serves as a mnemonic while addressing the practical realities and challenges faced by law enforcement. It helps mitigate additional burdens related to workload, time constraints, and costs for police forces. Although building rapport requires formal training for appropriate application, this memory aid reinforces prior training without exacerbating existing challenges, mitigating burdens related to workload, time constraints, and costs for police forces. By summarising essential skills, this tool equips officers with a comprehensive “toolkit,” facilitating recurrent reinforcement and application of rapport-building techniques in the absence of updated and informed training and guidelines.

Furthermore, videos developed as manipulations for the second study in Chapter 5 featured actors portraying various components of rapport within an interview context. The actors were required to demonstrate isolated and combined components of rapport while maintaining professionalism to accurately reflect ethical and professional interview settings. A total of five videos were recorded: one for the control condition (*being professional* only), three showcasing each individual component of rapport (*paying attention*, *building a relationship*, and *being approachable*), and one combining all components. To ensure variability, actors rotated roles, resulting in three versions of each video and a total of 15 videos, three for each condition. These videos are essential in illustrating the key components of rapport and have the potential to be used for training purposes. We propose that they allow for clear demonstrations of the distinctions between the absence of rapport components, the presence of individual components, and the integration of all components of rapport.

In addition to the products developed during this thesis and to further support the discussions from previously mentioned knowledge exchange events, a dedicated website is being created specifically for the Rapport-Pro. Before becoming fully operational and following the submission of the current thesis, this website will undergo a peer review process to ensure the quality and accessibility of the materials. This platform will hold all

materials related to the Rapport-Pro, including three versions of the Rapport-Pro (Interviewer, Interviewee, Observer), templates for memory aid cards, and access to the videos. In addition, the website will feature a section detailing the development process of the Rapport-Pro and act as a repository where the following are readily accessible or requestable: the searchable systematic map (SSM) of Chapter 2, the development process of Chapter 3, and datasets used throughout the evaluation and validation phases of Chapters 4 and 5. While this platform is currently under discussion and construction, the materials can be accessed from the Open Science Framework (OSF) in the meantime (see Appendix B for the links). By offering complete transparency and accessibility to the materials generated from the current thesis, we learn and implement the recommendations and challenges outlined in Chapter 2 while directly addressing researchers' call for a collaborative approach (Neequaye & Mac Giolla, 2022). Therefore, interested individuals can utilise these resources to enhance their understanding of rapport and to contribute to further research in the field.

Limitations & Future Research

The research presented in this thesis, culminating in the development of the Rapport-Pro, has drawn upon existing theoretical and empirical research of rapport as used in a professional context. However, it is important to note that while synthesising prior work has clear benefits, it also means that some of the fundamental research and theory will become outdated. As such, the Rapport-Pro is a measure of rapport, incorporating the commonalities and relevant concepts reported to this date and will require adjustment and flexibility in the future if better understanding of rapport is reached.

It is always important to consider the limitations of work prior to drawing any conclusions. Below, limitations relating to the following areas will be discussed: (i) manipulations of rapport, (ii) the validation of the Rapport-Pro across different perspectives and contexts, and (iii) the predictive validity of the Rapport-Pro in relation to information

disclosure. First, regarding the manipulations of rapport, the empirical studies presented herein incorporated videos depicting an interaction between an interviewer and an interviewee. The use of videos in Study 2 (Chapter 5) revealed difficulty in differentiating between conditions, suggesting that the differences between conditions were not substantial enough to be detected by the Rapport-Pro. Across all measures of rapport and associated constructs, no significant differences were found between the moderate and high rapport conditions, likely due to the videos used in these respective conditions rather than the Rapport-Pro. Notably, both videos were recorded as part of a separate study following investigative skills training, which included rapport-building techniques, suggesting an effect of training could have impacted these findings. This limitation was addressed in Study 3 (Chapter 5) by developing videos based on scripts that controlled for the presence of rapport components. Findings from Study 3 (Chapter 5) suggested that with different manipulations, the Rapport-Pro was sufficiently sensitive to detect variations in rapport. Therefore, the manipulation in Study 2 (Chapter 5) was likely too weak to produce a significant difference in rapport, reinforcing the reliability of the Rapport-Pro. It is also important to note that the manipulation was incorporated into a video format, which participants rated online. The current thesis did not measure rapport by requiring participants to witness an interview in person, whether as an interviewee, interviewer, or independent observer. In the literature, significant effects of the interview medium on rapport ratings have been reported, suggesting that higher ratings of rapport are achieved in an in-person context compared to an online context. In addition, strategies associated with paying attention, such as eye contact and active listening, were deemed necessary by a majority of participants but only in the in-person condition (Meijer et al., 2021). Such differences imply that rapport may be more difficult to establish online and might require different skills or components. Therefore, more research is necessary to

understand how the dynamics of rapport interact when observed across different interview mediums.

Second, the validity of the Rapport-Pro was assessed using the Rapport-Pro: Observer version, with individuals untrained in rapport as participants. While different versions of the Rapport-Pro have been developed (Rapport-Pro: Interviewer, Interviewee, and Observer), only the Observer version has been validated as part of the current thesis. While the items and structure of the measure remain the same across all versions of the Rapport-Pro, it is important to verify that the evidence supporting the accuracy and appropriateness of the observer version is replicated for the other two versions. This is particularly relevant considering only one study compared the differences in using different assessors' perspectives to examine which gives the most optimal ratings of rapport (Richardson & Nash, 2022). Their findings have found that observers and interviewees provide similar ratings of rapport, while interviewers' perceptions tend to not align (Richardson & Nash, 2022). Some researchers suggest this non-alignment might be due to the multi-tasked role of the interviewer (e.g., building rapport, asking the right questions at the right time, considering responses, managing time), thereby reducing their cognitive capacity to monitor and reflect on rapport (Abbe & Brandon, 2013). While such research reinforces the importance of the Rapport-Pro, findings from the expert evaluation (Chapter 3) emphasize the perspective of the assessor as a main consideration for measuring rapport using the Rapport-Pro: Observer. In particular, the experts mentioned the difficulty to assess rapport accurately from an independent observer perspective and argued that involvement in the interaction would provide better ratings. This discrepancy between current findings and experts' views reflects disparities which needs to be addressed by future research.

It should also be acknowledged that validity was assessed in a cooperative context whereby the interviewee was cooperative rather than reluctant to disclose information.

However, research suggests that law enforcement tend to revert to a confrontational approach rather than maintaining rapport-based approach when faced with uncooperative witnesses or suspects (Izotovas et al., 2021). This is despite findings suggesting that rapport enables more collaboration from suspects (Izotovas et al., 2021; Kelly et al., 2016). Other research reports the reduction in the quality of rapport throughout the interview, resulting in lowest rapport ratings by the end of suspects interview (Kelly et al., 2016) and fewer detailed accounts (Walsh & Bull, 2012). Hence, the dynamics of rapport may vary between contexts, such as different types of interviews, potentially impacting how the components of rapport interact to contribute to building rapport. Specifically, this means that the findings of Study 3 (Chapter 5) pertaining to the dynamics of rapport can only be generalized to cooperative witness interviews until further studies examine how different contexts affect the establishment of rapport. Therefore, further validation of the Rapport-Pro needs to encompass its evaluation across various contexts and manipulations to ensure its effectiveness, and to determine whether components of rapport differ across contexts.

Finally, the thesis did not explore the predictive validity of rapport. Instead, it focused on the dynamics of rapport without examining how individual components interact to influence investigative outcomes such as information disclosure. However, previous research has investigated and reported the effectiveness of rapport in relation to information disclosure (Collins & Carthy, 2018; Huang & Teoh, 2019; Nahouli et al., 2021; Vallano et al., 2022), as well as the ability to measure rapport in association with differences in information disclosure. For instance, Alison et al. (2013) observed increased information disclosure across multiple studies (Kim et al., 2020; Surmon-Bohr et al., 2020). Similarly, recent studies using Duke et al.'s (2018a) measure has reported heightened information disclosure associated with higher levels of rapport (Brimbal et al., 2021; Dion Larivière et al., 2023; Hoogesteyn et al., 2023). Therefore, it is imperative for future research to examine rapport, its components, and

their impact on information disclosure. This could help explain how rapport components interact to build rapport and which components have the greatest influence on information disclosure.

Conclusion

This thesis aimed to address current limitations in the definition, assessment, and operationalisation of rapport in professional information-gathering contexts. Based on an extensive review of existing literature, the Rapport-Pro was developed as a new measure of rapport, drawing on robust theoretical and methodological foundations. By synthesising various assessments of rapport, the Rapport-Pro provides a comprehensive toolkit of components that interviewers can utilise to establish rapport with interviewees and foster mutual connection. These components include *mutual connection*, *paying attention*, *building a relationship*, *being approachable*, and *being professional*, each supported by theory, recent reviews, and empirical evidence. Following established standards in scale development and validation, the Rapport-Pro was rigorously evaluated for accuracy and appropriateness, demonstrating its reliability and effectiveness as a measure of rapport. Moreover, this thesis is the first body of work to explore the underlying dynamics of each component and their interactions contributing to building rapport, offering new insights into our understanding of rapport.

The findings of this thesis have implications for theory, practice, and future research. By shedding light on the underlying processes of rapport, the Rapport-Pro contributes to advancing our theoretical understanding and offering new avenues for research regarding its implications for cooperation and information disclosure. More importantly, the thesis provides the most up-to-date reliable and validated measure of rapport, addressing researchers' calls for advancing research despite challenges surrounding inconsistencies in interpretation of rapport. Additionally, the thesis highlights neglected areas of research related

to optimal conditions for building and assessing rapport. Practically, the Rapport-Pro has strong potential to serve as a valuable toolkit for rapport-building strategies that can be directly implemented by interviewers, informing training programs, guiding professional practice, and facilitating knowledge exchange. Resources and findings of this thesis will be disseminated through relevant academic publications and professional platforms to support its pathway to impact.

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Appendix A: Systematic Review

Pico Framework

Research question: How is *rapport* within *professional information-gathering settings* *measured* with *adults*?

P – Population/problem

adult* OR “young adult*” OR student* OR counsellor OR doctor* OR therapist* OR patient* OR customer* OR client* OR police* OR interview* OR interrogat* OR educat* OR Business

Intervention/exposure

measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rate* OR rating* OR rated OR self-report*

C – Comparison (optional)

O – Outcomes

rapport* OR “rapport Building” OR “working alliance” OR “therapeutic alliance” OR “interpersonal interaction” OR relation* OR “empathy”.

Search strings trialled.

1. (rapport* OR “rapport Building” OR “working alliance” OR “therapeutic alliance” OR “interpersonal interaction” OR relation* OR “empathy”) AND (measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rat* OR self-report*) AND (adult* OR “young adult*” OR student* OR counsellor OR doctor* OR therapist* OR patient* OR customer* OR client* OR police* OR interview* OR interrogat* OR educat*)
2. (rapport* OR “rapport Building” OR “working alliance” OR “therapeutic alliance” OR “interpersonal interaction” OR relation* OR “empathy”) AND (measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rat* OR self-report*) AND (adult* OR "young adult*")
3. rapport* n3 (measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rate* OR self-report*)
4. rapport* n3(measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rate* OR rating* OR rated OR self-report*)
5. Final: (rapport* OR "rapport building") n3 (measur* OR question* OR observ* OR inventor* OR scale* OR subscale* OR report* OR rate* OR rating* OR rated OR self-report*).

Link to the Searchable Systematic Map:

https://osf.io/qg4mx/?view_only=d1e94adb156e43efb1c7e82485abf65f

Appendix B: Scale Development Resources

Links

All materials explaining and pertaining to the scale development process is available on the Open Science Framework (OSF). Due to the size of the resources available, a zip file was created which can be downloaded from the following link

https://osf.io/pzyta/?view_only=acb38d7484f641d7902f82219e9bd2f7. The following are included:

1. The history of the Rapport-Pro: This is an excel file including all the stages of the scale development process starting from the initial item pool to the final version of the Rapport-Pro.
2. The coded initial item pool: This is an excel file listing all the items included in the item pool coded according to the agreed theoretical framework.
3. The Rapport-Pro Protocol: This is a PDF explaining the background of the scale, the findings of the scale development and validation process alongside the full list of items and its scoring system. All three versions of the scale are included (Rapport-Pro: Interviewer, Interviewee, Observer).
4. Data sets for the Pre-testing Study, Study 1, Study 2, Study 3.

5. Videos recorded and included in Study 3.
6. Rapport-Pro & Investigative Questioning memory aid card2.
7. Knowledge Exchange Presentations
8. The Excel sheet provided for the expert evaluation.

Appendix C: Pre-testing Study

Survey Flow

Informed Consent (2 Questions) GDPR (1 Question)
EmbeddedData PROLIFIC_PIDValue will be set from Panel or URL.
Prolific ID (1 Question) Instructions (1 Question)
Randomizer: 2 - Evenly Present Elements
<ul style="list-style-type: none"> Block 1: Feeling of rapport (3 Questions) Block 2: Paying attention (3 Questions) Block 3: Building a relationship (3 Questions) Block 4: Being approachable (3 Questions) Block 5: Being professional (3 Questions)
Demographic data (3 Questions) Debrief (1 Question)

Informed Consent

Measuring rapport in professional intelligence-gathering contexts

You have been invited to take part in a research project focusing on measuring rapport in professional information-gathering contexts. The aim of this study is to develop and validate a new measure of rapport. We are interested in developing a clear set of items that measure

verbal and non-verbal behaviours used to build rapport, as well as feelings of rapport. Based on a review of the current research and existing measures of rapport, we have pooled items which are of most relevance and would now like your help to ensure of their clarity and readability.

This research is being undertaken as part of PhD in Psychology at Goldsmiths, University of London lead by Celine Brouillard and supervised by Prof. Fiona Gabbert & Dr. Adrian Scott.

What is rapport?

Obtaining reliable and detailed information is the most crucial goal for police interviews, but the source of the information may be reluctant to share information. Both practitioners and researchers, as well as the College of Policing, have agreed on the importance of building rapport in increasing disclosure of information and cooperation during a police interview.

Professional rapport-building refers to an intentional use of strategies to build rapport to facilitate a positive interaction. A wide range of research has informed about behaviours or strategies which can be used to build rapport with an individual. More particularly, these behaviours were categorised as: *feeling of rapport (mutual connection)*, *paying attention*, *personalising the interview to build a relationship*, the interviewer presenting themselves as *being approachable* and *being professional*.

Why does this project matter?

There are various definitions of rapport and most measures of rapport built previously are poorly validated or not validated. Despite the amount of research conducted on this topic, there is currently no commonly accepted measure of professional rapport which can be reliably used.

Building rapport is a difficult skill to develop and train. Measuring rapport is vital to help police officers to develop their rapport-building strategies and assess their learning. If these measures of rapport are not validated, we cannot be sure the rapport-building skills being taught are learned and subsequently applied properly.

What do I have to do?

The rapport measure we would like to validate has five sections, each with approximately 15 items that we would like you to rate according to their clarity and readability. If you take part, we will randomly assign you two sections rate (approximately 35 items). We estimate that this will take you approximately 20 to 40 minutes. However, the duration depends on an individual's pace and can take less or more time than expected.

What do I get from this project?

You will be awarded research credits for your participation. These will be processed upon completion of the study and may take a moment to process. Your participation will also be an enormous help in validating a new measure of rapport. If you have been recruited from Prolific, you will be eligible for nominal monetary compensation and you will contribute towards research in the field of Psychology.

Do I have to take part?

Your participation is entirely voluntary. Additionally, you can exit the questionnaire, skip questions, or withdraw your information at any point in the future.

What will happen to my information?

This study is strictly confidential. If the study was to be published, you would not be identifiable. You are not required to write any personal information on the questionnaire. At the end of the survey, you will be provided with a link leading you to another page and

allowing you to enter your username. To allow you to withdraw your data in the future, you will be asked to create a personal code so that your data can be tracked and deleted. Your answers will be kept on the University secured OneDrive in the personal possession of the researchers who will comply with the requirements of the Data Protection Act. If you wish to have more information regarding your rights in this study, please follow this link regarding General Data Protection Regulation (GDPR): <https://ico.org.uk/your-data-matters/>.

Who has reviewed the study?

The study has been reviewed by the Research Ethics Committee at Goldsmiths, University of London.

Research Integrity

Goldsmiths, University of London, is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research.

I have question or an issue, what do I do?

Contact the lead researcher Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian Scott, (A.Scott@gold.ac.uk) or alternatively the Chair of the Research Ethics Committee (y.kovas@gold.ac.uk).

Thank you for your participation!

Tick the boxes below to confirm you are happy to take part and then click on the arrow at the bottom of the page to continue.

- I have read and understand the information in the consent form.

- I understand data collected will be entirely confidential and no personal information will be required.
- I understand my participation is voluntary and can withdraw at any point without an explanation.
- I confirm being over 18 years old.
- I consent to take part.

General Data Protection Regulation (GDPR)

To comply with GDPR we will not collect any information that can personally identify you such as your name or IP address. All data are collected anonymously. However, we also want you to be able to withdraw your data if you change your mind about the study. Therefore we ask you to create an identifying code known only to you

Goldsmiths full GDPR policy for research can be downloaded here [[GDPR - pdf](#)]

Write down the last three letters of your mother's maiden name and your month of birth (e.g. LIK09):

Survey

1. Prolific ID

Many thanks for agreeing to participate in the study.

What is your Prolific ID?

Please note that this response should auto-fill with the correct ID (alternatively, please enter the correct ID)

2. Instructions

Before you complete the questionnaire below, we have included a reminder of what we mean by rapport, what this scale is about and what we ask you to do.

What is rapport?

Professional rapport-building refers to an intentional use of strategies to build rapport to facilitate a positive interaction. A wide range of research has informed about behaviours or strategies which can be used to build rapport with an individual. More particularly, these behaviours were categorised as: *feeling of rapport (mutual connection)*, *paying attention*, *personalising the interview to build a relationship*, the interviewer presenting themselves as *being approachable* and *being professional*.

Why is the scale relevant?

There is currently no commonly agreed measure of rapport. There has been a few attempts to develop an assessment, either a scale or an observational measure. However, most research assessing rapport either (i) do not agree on the definition of rapport, (ii) do not agree on how to build rapport, (iii) do not use best practice in scale development and validation.

We reviewed systematically all the studies investigating rapport and using a measure of rapport. We then mapped these articles to understand which area of the field is neglected.

Overall, there were 53 scales developed to measure rapport and 34 which were only a modification of a previously published scale. Only 12 (13%) of these were validated according to best practice. Therefore, we decided to build our own based on previous scale of rapport!

Your task

The scale is made of 5 sections (*feeling of rapport*, *paying attention*, *building a relationship*, *being approachable* and *being professional*). You are only required to rate the items of 2 sections which you will be randomly allocated to.

1. You will rate the items of **TWO** sections according to their clarity and your understanding.
2. You will make a guess regarding the sections of the scale you have been allocated to.

Click on the arrow below to start!

3. Instructions

Imagine you have just witnessed an interaction between a police officer and an interviewee, and you are now being asked to rate the interaction using the following series of questions.

Could you please rate each question according to whether you understand what the question is asking, and whether you think the wording of the question is clear.

4. Conditions

- **Mutual Connection**

	How well do you understand this item?					How clear is the wording of the item?				
	Not at all	Slightly	Moderately	Very	Extremely	Extremely unclear	Slightly unclear	Neither clear or unclear	Slightly clear	Extremely clear
The communication between the interviewer and interviewee appeared to be effortless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee appeared to get along well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and the interviewee appeared to have a genuine mutual interest in one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and the interviewee was reciprocal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee appeared to be 'in synch' with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee appeared comfortable with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There appeared to be a close connection between the interviewer and the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and the interviewee appeared comfortably paced.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and the interviewee appeared cooperative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and the interviewee appeared harmonious.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee appeared to share a 'bond'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee appeared to understand one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and the interviewee appeared to be positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and the interviewee appeared well-coordinated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There appeared to be a good connection between the interviewer and the interviewee throughout the interview.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and the interviewee appeared to work well together as a team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- **Paying Attention**

	How well do you understand this item?					How clear is the wording of this item?				
	Not at all	Slightly	Moderately	Very	Extremely	Extremely unclear	Slightly unclear	Neither clear or unclear	Slightly clear	Extremely clear
The interviewer accurately summarised what the interviewee said.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer really listened to what the interviewee had to say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer maintained eye contact with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer acknowledged the interviewee's emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was engaged in the interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was responsive to what the interviewee said.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer understood how the interviewee was feeling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was empathetic towards the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was attentive to the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer responded to the interviewee's queries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer put themselves in the interviewee's shoes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was nodding in response to what the interviewee said.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer reflected upon what the interviewee was saying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer mirrored what the interviewee was saying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer carefully considered what the interviewee said.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- **Building a Relationship**

	How well do you understand this item?					How clear is the wording of this item?				
	Not at all	Slightly	Moderately	Very	Extremely	Extremely unclear	Slightly unclear	Neither clear or unclear	Slightly clear	Extremely clear
The interviewer shared personal information about themselves with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer placed the wellbeing of the interviewee as a priority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer made the interview feel personal rather than routine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was interested in the interviewee's point of view.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer responded to the interviewee as an individual rather than a 'case'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer made an effort to share common experiences with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This interviewer related well to the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer asked how the interviewee preferred to be referred to (name and pronouns).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer demonstrated cultural awareness where appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer took a personal interest in the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer made an effort to understand the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer tried to find common ground with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer understood the importance of the interviewee's perspective.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer engaged in conversations which were unrelated to the purpose of the interview.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer discussed shared interests and/or hobbies with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer respected the personal space of the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer showed concerns for the interviewee's situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- **Being Approachable**

	How well do you understand this item?					How clear is the wording of this item?				
	Not at all	Slightly	Moderately	Very	Extremely	Extremely unclear	Slightly unclear	Neither clear or unclear	Slightly clear	Extremely clear
The interviewer was patient with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was supportive of the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer gave the impression of feeling at ease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer conveyed a sensitive attitude towards the interviewee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was open-minded during the interview.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer displayed a receptive posture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer enabled the interviewee to express themselves without fear of condemnation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer encouraged the interviewee to talk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer's tone of voice was conversational.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was approachable with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer reassured the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer smiled to encourage the interviewee to talk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was affable with the interviewee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer created a safe space for the interviewee to share information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer did not pressure the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer had a relaxed posture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer created a feeling of warmth in the interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was friendly during the interview.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- **Being Professional**

	How well do you understand this item?					How clear is the wording of this item?				
	Not at all	Slightly	Moderately	Very	Extremely	Extremely unclear	Slightly unclear	Neither clear or unclear	Slightly clear	Extremely clear
The interviewer treated the interviewee humanely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was sincere.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer respected the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer carefully considered their audience and adjusted their communication style appropriately.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was helpful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer could be trusted to keep their word.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer demonstrated professional behaviours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was clear about the process of the interview.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was confident in their approach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was impartial.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was honest with the interviewee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was non-judgmental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer's behaviour towards the interviewee was genuine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer demonstrated courteous behaviours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was polite.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer treated the interviewee fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Components of rapport selection

Of the questions that you have just rated, were any particularly problematic, in that you weren't sure what they were asking, or the wording was difficult to understand, or ambiguous.

If so, please tell us which question/s were problematic and explain why.

Your task was to give your opinion on the readability and clarity of the items of a scale intended to measure rapport. This scale consists of five sections:

- **Feeling of Rapport/ Mutual Connection:** Presence of a mutual connection or a bond.
- **Paying Attention:** Acknowledging and understanding the knowledge and feeling of the interviewee.
- **Building a Relationship:** Taking actions to personalise the interview.
- **Being Approachable:** Presenting an approachable demeanor.
- **Being Professional:** Demonstrating professional conduct.

You have just rated **ONE** section; can you indicate which of the five sections the above statements relate to?

- Feeling of rapport
- Paying attention
- Building a relationship
- Being approachable
- Being professional

6. Demographics

How old are you?

What is your gender?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

Debrief Information

Thank you for taking part in this online research study.

What have we done so far?

This project is part of a series of studies which aims to develop and validate a measure of rapport in investigative interview settings. Firstly, we systematically reviewed studies assessing rapport across different fields (criminal justice, counselling, educational psychology, etc.) to extract previously used items. Secondly, we modified and adapted these items to fit the context of a police interview. In the current study, we wanted to ensure the clarity and readability of the items before proceeding with further refinement. Your responses will help us to ensure the scale is properly worded with any ambiguous items being revised or discarded.

What are the next steps?

The following steps include gathering end-users (who is likely to use the questionnaire in the future e.g., police officers, trainee, the general population etc.) and experts in the field of investigative psychology to assess the content validity of the scale. This means verifying whether this scale is representation of what we aim to measure, rapport. This will allow us to come up with a first prototype which can then be tested and validated at further stages.

Why is this important again?

Training has been implemented to help police and law enforcement officers develop the skill of building rapport with an interviewee. Often, tools measuring rapport have been used to

assess the performance of trainees and provide feedback. However, currently there is no universally agreed definition of rapport or commonly accepted validated measurement tool. Therefore, the interpretation of rapport can vary and widely impact its application. Research in this field is necessary to understand how best to define rapport, and how to improve current measures.

Interested?

If participating in this study has piqued your interest, check the Goldsmiths Forensic Psychology Unit (FPU) page for more information about investigative forensic psychology or other research in this field. <https://www.gold.ac.uk/forensic-psychology-unit/>

We also recommend looking at the College of Policing website which outline the best practice which police officers should follow when building rapport

(<https://www.college.police.uk/guidance/obtaining-initial-accounts/rapport-building#:~:text=To%20establish%20rapport%20during%20a,asking%20some%20brief%20neutral%20questions>).

If you have any questions or would like to hear more about this research in the future, please do not hesitate to contact the researcher – Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian Scott, (A.Scott@gold.ac.uk), or alternatively the Chair of the Research Ethics Committee, (y.kovas@gold.ac.uk).

Thank you once again.

Please click 'Next' to submit your responses and enter your username to get your credits.

Appendix D: Expert Evaluation - Communications

Email Invitation

Dear XXX,

I am currently completing a PhD examining rapport in professional information-gathering contexts supervised by Professor Fiona Gabbert and Dr Adrian Scott at Goldsmiths, University of London. As part of my thesis, I have systematically reviewed available measures of rapport, and extracted and coded relevant items to develop my own comprehensive measure of rapport, that I am in the process of validating in several ways. So far, the measure I have developed has been reviewed by an independent sample of (non-expert) participants who rated each of the items in relation to wording and clarity. The next step is to evaluate how well the items reflect rapport as we understand it in theory and practice.

Considering your work in the field, I believe your contribution would be highly valuable for this project and I would like to invite you to take part an expert evaluation. If you're interested in participating in this project, the first step is simply to confirm your participation by replying to this email. Following this, an Excel file including the items will be sent to you for evaluation (Phase 1). We don't imagine this will take very long, depending on how much feedback you choose to provide. For Phase 2, a discussion meeting will be organised to take place in June/July 2022 for the purpose of discussing any disagreements or flagged items. This projects entirely rely on your participation so we would like to thank you by providing you with a £10 Amazon voucher. Alternatively, some of the research team will attend the iIRG conference and will be more than happy to offer a bottle of wine (or a non-alcoholic alternative gift) to anyone involved in this evaluation.

Note that this project had been reviewed by the Research Ethics Committee at Goldsmiths, University of London. If you want more information, I have attached a proposal to this email including the background, rationale, and procedure of this evaluation. If you're keen in participating in this project, I would appreciate it if you would confirm your interest and return the proposal signed with your initials. I would be delighted if you were to agree to be involved.

I look forward to hearing from you.

Kind regards,

Celine

Proposal and Informed Consent

Assessing professional rapport: The development and validation of a new measure –

A request to help with the Expert Evaluation Stage

Celine Brouillard, Prof. Fiona Gabbert & Dr. Adrian J. Scott

Background. A growing body of research finds that taking steps to build rapport facilitates cooperation and disclosure in a range of professional information gathering contexts. Rapport is typically measured by either quantifying an interviewee's appraisal of the interviewer and/or their interaction, or by assessing the presence or absence of the use of rapport behaviours (Gabbert et al., 2020). Currently, four main measures of rapport have been developed for use in investigative interviewing contexts (Alison et al., 2013; Collins & Carthy, 2018; Duke et al., 2018a; Vallano & Schreiber Compo, 2015). Only one of these measures demonstrated good internal reliability as well as construct and concurrent validity (Duke et al., 2018a). However, none have been subjected to an expert evaluation.

A recent systematic review of studies examining the use of rapport in information gathering contexts has highlighted the absence of a commonly accepted measure of rapport. Of the measures available, most focus on the use of rapport behaviours, while feelings of rapport are relatively overlooked (Gabbert et al., 2020). It is therefore unclear whether the presence of rapport behaviours used by the interviewer and/or the feelings of rapport experienced by the interviewee, or both, are needed to achieve disclosure. This lack of consistency limits our understanding of how rapport works to increase the disclosure of information.

Proposed research. To address these challenges and gaps in knowledge, a Systematic Review has been conducted to (a) identify and collate currently available measures of rapport, and (b) draw upon these to develop and validate a new comprehensive measure of rapport. Initial stages of the project have included coding each of the items from the available measures of rapport in relation to what each seeks to address. Six coding categories were established, that most items were represented by: (i) *mutual connection*, (ii) *paying attention*, (iii) *building a relationship*, (iv) *being approachable*, and (v) *being professional*. A sixth coding category; (6) Other, was for items that could not be categorised (e.g., it was ambiguous or did not assess rapport). We then deleted duplicate items and made small edits where necessary to ensure the wording was consistent across the remaining items. The wording and clarity of the scale items was then checked, using a sample of independent reviewers. The next step is to inspect the measure's content validity relating to how well the items reflect rapport as we understand it in theory and practice. Therefore, it is important to recruit both researchers and practitioners in the field of investigative interviewing, who have a theoretical and/or practical expertise relating to rapport.

Proposed method. We would like to invite experts to evaluate the remaining items and provide feedback in relation to whether the items reflect the general, the theoretical, and the practical understanding of rapport-based strategies. Three individual groups of experts will be recruited,

as outlined below. The scale will be sent by email and feedback will be collected to refine the items once each group of experts have completed their evaluation.

1. General understanding of rapport – Members from the Forensic Psychology Unit (FPU): A group of 5-7 student/members of the FPU at Goldsmiths, University of London, with knowledge of rapport building strategies or investigative interviewing.
2. Theoretical understanding of rapport – Scholars: A group of 5-7 scholars with research expertise in building rapport for investigative interviewing. In addition, we are also interested in the views of researchers exploring the impact of culture on rapport.
3. The practical understanding of rapport – Practitioners: A group of 5-7 practitioners with expertise in training law enforcement to develop rapport skills as well as interviewing witnesses, victims, or suspects.

Procedure. A two-phase procedure is proposed; (1) experts will read through the items in their own time, making notes about any items they wish to discuss, and (2) an online meeting via Teams/Zoom will be scheduled to discuss the items, and any items they would like to discuss.

Schedule. Once your interest in participating in this project is confirmed and all expert's groups are formed, the Excel file including the items will be sent to you for evaluation (Phase 1). You will then email back the excel file to the lead researcher to process to phase 2. A discussion meeting will be organised among your expert group which is to take place in June/July 2022 to discuss any disagreements or flagged items. If you wish to be a part of this project, please contact the lead researcher (Celine Brouillard, c.brouillard@gold.ac.uk) as soon as possible to communicate your availability and consent to participating to this project below. Please send the proposal signed back to the lead researcher as soon as possible.

Ethic. This projects entirely rely on your voluntary participation so we would like to thank you by providing you with a £10 Amazon voucher. Alternatively, some of us will attend the iIRG

conference and will be more than happy to offer a bottle of wine (or a non-alcoholic alternative gift) to anyone involved in this evaluation. Note that, you can withdraw your data at any point and your feedback will be kept confidential. You will not be identifiable if published. General Data Protection Regulations (GDPR) Goldsmiths full GDPR policy can be accessed here: <https://drive.google.com/file/d/17Ox3yer4pdRc6rV7e4CLTTcd8iB6NwvF/view>

Please insert your initials here to consent to participating:

Email and Data Sharing

The items of the measure and instructions for the expert evaluation were provided to the experts using an excel file available from OSF (), was emailed to the experts alongside the following email.

Dear xxx,

Thank you again for participating to this project, we really appreciate your help in refining our measure of rapport.

As promised, you can find the excel file attached which contains two tabs, (i) “Background and Information” and (ii) “Items to Evaluate”. I recommend you start by reading the background and information first and then pass to the second tab to proceed to evaluating the scale’s items. I have included a little explanation of what you can expect to find in the excel file below. Note that, you can evaluate the items at your own pace and submit your feedback when you are ready. However, a reminder email will be sent approximately xxx weeks following this email if you have not submitted your feedback yet.

What is included in the excel file?

The “*Background and Information*” tab contains all the information you need to conduct the evaluation and submit your feedback to the lead researcher. Also, you can find the definition of rapport adopted for this measure, more information about the procedure, ethical consideration, and instruction in this tab. Please make sure you are familiar with this before you proceed to evaluating the scale’s items.

The “*Items to Evaluate*” tab includes the scale’s items organised according to five categories: (i) *mutual connection*, (ii) *paying attention*, (iii) *building a relationship*, (iv) *being approachable*, or (v) *being professional*. There are 53 items in total with 10 items for *mutual connection*, 11 items for *paying attention*, 11 items for *building a relationship*, 13 items for *being approachable*, and 8 items for *being professional*. Each category is represented by several items which intent to reflect different aspects of rapport.

The scale is presented as such:

- You will find each category to be displayed in different columns with each row representing an item.
- The top row includes the names of the categories, their definition, and the instructions to follow.
- Next to each category, a column is provided for you to indicate any items you would like to flag or discuss. The instruction in the top row detail how to flag an item.
- Additionally, the final row of each category requires you to evaluate how well the category as a whole fits with the current understanding of rapport.

If you have any questions or issues with the excel file, please do not hesitate to contact me.

Thanks again and happy evaluation!

Celine

Debrief Email (sent following upon completion of the focus groups)

Assessing professional rapport: The development and validation of a new measure –

A request to help with the Expert Evaluation Stage

We would like to thank you for your participation to this project and your feedback during the expert discussion. Your contribution to this project is incredibly valuable and we would not be able to progress without your assistance.

As you probably know, this project is part of a series of studies which aims to develop and validate a measure of rapport in investigative interview settings. Firstly, we systematically reviewed studies assessing rapport across different fields (criminal justice, counselling, educational psychology, etc.) to extract previously used items. Secondly, we modified and adapted these items to fit the context of a police interview. We also verified the wording and clarity of the items before proceeding with further refinement in a pre-testing study. This expert evaluation allows us to verify whether the items reflect the general, the theoretical, and the practical understanding of rapport-based strategies. By participating to this project, you provided your expertise which allowed adjustment to be made so that the measure fits with the current understanding of rapport.

What are the next steps?

The following steps include testing the measure for the first time and examining the factorial structure of the scale. This means we will verify whether the items fit well within the scale and if the categories align with our predefined theoretical framework. If this is successful, we can then proceed to validating the scale according to methodological recommendations.

Interested?

If participating in this study has piqued your interest, check the Goldsmiths Forensic Psychology Unit (FPU) page for more information about investigative forensic psychology or other research in this field. <https://www.gold.ac.uk/forensic-psychology-unit/>. If you do not follow the FPU twitter page, you may want to check this out (<https://twitter.com/forensicgold>).

If you have any questions or would like to hear more about this research in the future, please do not hesitate to contact the researcher – Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian Scott, (A.Scott@gold.ac.uk), or alternatively the Chair of the Research Ethics Committee, (y.kovas@gold.ac.uk)

Thank you once again!

The research team

Appendix E: Expert Evaluation – Focus Groups PowerPoint

Thanks again for your participation!



Objective:

- Brief overview of the agreement and disagreement between experts
- Discussion - flagged items
- No right or wrong answers

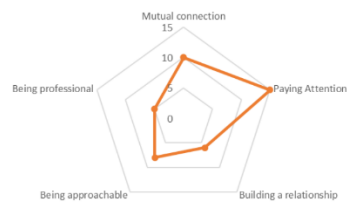
1. **Mutual connection:** Presence of a mutual connection between the interviewer and the interviewee
2. **Paying attention:** Acknowledging and understanding the knowledge and feelings of the interviewee.
3. **Building a relationship:** The interviewer making a direct action in order to build a relationship or personalize the interview.
4. **Being approachable:** Presenting an approachable and open demeanour
5. **Being professional:** This relates to the interviewer demonstrating professional conduct including being respectful, trustworthy, honest, ethical.

[5 minutes introduction reminding of the task, the schedule and the main components of rapport and their definitions]

Expert Evaluation Discussion



1. How did you find the procedure? Was it hard or easy?
2. Do you feel the scale does a good job representing what we know of rapport?
3. Do you think each individual category seem relevant in how an interviewer would build rapport?
4. Do you think this could be improved in any way? Do you feel like there might be something missing?
5. How well did the items sit in the different categories?



[Ice Breaker discussion for 5 minutes asking about the experts' perceptions of the evaluation process]

Discussion

Flagged items - Mutual connection

The interviewer and interviewee appeared to get along well.

- Who's filling out this questionnaire - an independent observer?

The interviewer and interviewee appeared to understand one another.

- This assumes understanding is linked to connection, which is fine, just wondering what literature/measure had this been drawn from

Discussion

Flagged items - Paying attention

The interviewer listened to what the interviewee had to say.

- Why is this worded like this and not "The interviewer and interviewee listened to what each other had to say"? Because the first facet was worded as such

The interviewer was responsive to what the interviewee said.

- <Is there meant to be a blank here?

The interviewer accurately summarised what the interviewee said.

- Assuming there's a summary at the end of the interview you mean? Or just in general as the interview went along?

The interviewer understood how the interviewee was feeling.

- Seemed to understand' may be better - following your other wording

[Discussions of the flagged items per each component of rapport, reminding of the item and the experts' comments]

Any final comments or questions?

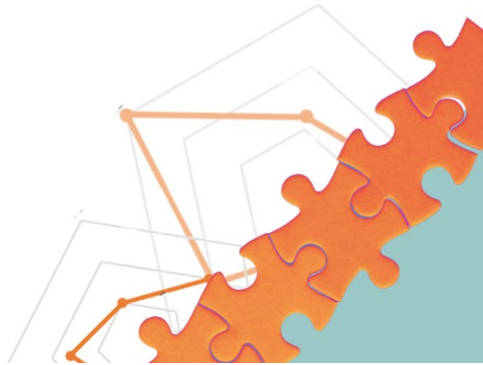
Do you want to add anything else?

[Additional opportunities to ask questions or comments on the Rapport-Pro]

**MANY
THANKS!**

 c.brouillard@gold.ac.uk

 [@Celine_B25](https://twitter.com/Celine_B25)



[Final debrief explaining the next steps, how the experts' voucher will be provided to them and thanking them once again for taking the time to evaluate the Rapport-Pro]

Appendix F: The Rapport-Pro: Observer

Rapport-Pro Items – Pre-Factor Analysis (30 items)

MC1. There was a natural flow of conversation between the interviewer and interviewee.

MC2. The interviewer and interviewee were comfortable in each other's presence.

MC3. The interaction between the interviewer and interviewee was appropriately paced.

MC4. The interaction between the interviewer and interviewee was cooperative.

MC5. The interviewer and interviewee demonstrated an understanding of one another.

MC6. The interviewer and the interviewee demonstrated an interest in one another.

PA1. The interviewer listened to what the interviewee had to say.

PA2. The interviewer was attentive to the interviewee.

PA3. The interviewer took the time to consider what the interviewee said.

PA4. The interviewer was appropriately empathetic towards the interviewee.

PA5. The interviewer was engaged with the interviewee.

PA6. The interviewer was responsive to what the interviewee said.

BR1. The interviewer made an effort to understand the interviewee.

BR2. The interviewer took an interest in the interviewee.

BR3. The interviewer tried to find common ground with the interviewee.

BR4. The interviewer asked how the interviewee would prefer to be addressed.

BR5. The interviewer was sensitive to the wellbeing of the interviewee.

BA1. The interviewer encouraged the interviewee to talk.

BA2. The interviewer's tone of voice was conversational.

BA3. The interviewer was patient with the interviewee.

BA4. The interviewer created a safe space for the interviewee to share information.

BA5. The interviewer reassured the interviewee.

BA6. The interviewer had an open body posture.

BA7. The interviewer was supportive of the interviewee.

BP1. The interviewer treated the interviewee fairly.

BP2. The interviewer was respectful towards the interviewee.

BP3. The interviewer was sincere with the interviewee.

BP4. The interviewer was confident when conducting the interview.

BP5. The interviewer was polite towards the interviewee.

BP6. The interviewer adapted their communication to suit the interviewee.

Rapport-Pro Items – Post-Factor Analysis (26 items)

MC1. There was a natural flow of conversation between the interviewer and interviewee.

MC2. The interviewer and interviewee were comfortable in each other's presence.

MC3. The interaction between the interviewer and interviewee was appropriately paced.

MC5. The interviewer and interviewee demonstrated an understanding of one another.

MC6. The interviewer and the interviewee demonstrated an interest in one another.

PA2. The interviewer was attentive to the interviewee.

PA3. The interviewer took the time to consider what the interviewee said.

PA4. The interviewer was appropriately empathetic towards the interviewee.

PA5. The interviewer was engaged with the interviewee.

PA6. The interviewer was responsive to what the interviewee said.

BR1. The interviewer made an effort to understand the interviewee.

BR2. The interviewer took an interest in the interviewee.

BR3. The interviewer tried to find common ground with the interviewee.

BR5. The interviewer was sensitive to the wellbeing of the interviewee.

BA1. The interviewer encouraged the interviewee to talk.

BA2. The interviewer's tone of voice was conversational.

BA4. The interviewer created a safe space for the interviewee to share information.

BA5. The interviewer reassured the interviewee.

BA6. The interviewer had an open body posture.

BA7. The interviewer was supportive of the interviewee.

BP1. The interviewer treated the interviewee fairly.

BP2. The interviewer was respectful towards the interviewee.

BP3. The interviewer was sincere with the interviewee.

BP4. The interviewer was confident when conducting the interview.

BP5. The interviewer was polite towards the interviewee.

BP6. The interviewer adapted their communication to suit the interviewee.

MC = *mutual connection*

PA = *paying attention*

BR = *building a relationship*

BA = *being approachable*

BP = *being professional*

Appendix G: Expert Evaluation - Focus Groups Analysis

Coding Framework

Themes	Meaning
Item Modification	Feedback targeted directly at the overall scale, subcomponents or items.
Ideal Rapport	What works with rapport and which behavioural strategy experts believe rapport should encompass.
Context Appropriateness	The appropriateness of behavioural strategies of rapport and the barriers associated with building rapport.
Ambiguity/subjectivity	The inherent subjectivity and ambiguity associated with building rapport and its behavioural strategies.
Assessor's perception	The point of view which should be considered when assessing rapport.
Operationalisation	The practical realities of applying behavioural strategies of rapport.

Example of a coded transcript of a focus group

Speakers: KL, LC, WT, Celine Brouillard, CK

WT 10:14

So looking at that, when they're interviewing the interviewer, they appear to be getting along well, that's my comment, there, I think that the idea of getting along well needs to be a bit more defined. Because I've seen, I've seen, for me, the idea of, you know, the ideal, the ideal relationship in an interview is that you are connected, you are in sync with each other. But the idea of sort of, you know, getting along well, in first friendship, and I sort of, and I think that can be really dangerous. I mean, there's nothing wrong with, you know, if that happens in interview, but I don't think it's necessarily a good indicator of rapport. And it's very difficult to judge because, you know, I'd rather say, getting along well, is that there is a coordinated relationship. Both people realize the nature of the relationship in the room, but friendship can

be sort of manipulative from both sides. So I think it's the idea of that. I just didn't like that. But he's getting along. Well, I think he needs more definition.

CK 11:34

If we put in the mindset about definition, sorry, LC. You know, this, as my comments in this category, in particular, kind of tie back to my initial question about is, you know, how do you operationalize these things? If, if you were to develop a coding system and give it to some, you know, undergraduate student coders and say, okay, code that they got along? Well, they, what does that mean? Exactly? How would what would they? What would these coders be looking for? Same with like, a natural? What? What is it natural communication style between two people? Or how would like, are they working together? So I think in general, as my first comment there says, it's like, you know, for research purposes, I think, I think when you're in the room, and you're talking to somebody, you know, whether or not you're getting on well with them. And that's true across all personal communications. And sometimes, like, when you're with WT, you're just in his presence, and you just had this weird, achy feeling. It's hard to explain it, but you know, it just is there. And then other times when you're with LC. LC makes it feel like you're the greatest person in the world, and vice versa. And so, but that's all well and good in the room. For a practitioner practitioner, someone who's experienced with interviewing can really pick up on these subtle cues. But for a third party coding observer, how do these things get defined? That's, that's my biggest question.

WT 13:11

I mean, yeah, I,

LC 13:12

if I, if I just just jump in again, Celine I very much echo what what WT and CK would just say, you know, I'm coming at this from from a lawyer's perspective and definitions, and, you know, ensuring clarity as opposed to ambiguity. And exactly, as CK said, my huge issue. So I

totally agree is WT said, mutual connection, it's the heart of rapport, you know, it's absolutely key. But But saying it, almost everyone said, and the four we've got here all refer to 'appear to be'. And I just think back to, you know, the work Paul Ekman did of you know, married couples where they look like, they're all getting on perfectly fine. But actually, there's animosity, there's whatever. So for me, I think having, as CK said, a third party assessing is just not that, you know, if you want to check, you need to speak to the individual people and say, How did you feel about the the interaction, they can then give you the feedback, but a third party who's separate from it, I really struggled. So I very much agree with everything that's been said. And you know, what does get along? Well, what does natural mean, but more than that appeared is such a subjective perspective. And so that's where I had a real problem with almost all of these, although I agree with the mutual connection without a shadow of a doubt.

WT 14:33

I mean, from from sort of my point of view, the the idea of getting along well, there are and the conversation appearing, the communication appears natural. It doesn't, it does know what I'm about to say doesn't quite fit that. But there are some behaviors that I would see an interview things like, you know, turn to Natural Turn taking in the conversation, you know referring to what the other person says. And that shows that you're confident that the conversation isn't jumping from topic to topic, it's actually building. You know, there are things that show that there's good communication going on. But that doesn't refer at all to sort of getting along well, or friendship, or, yeah.

Celine Brouillard 15:36

That's really interesting, because the first expert evaluation with a couple of people yesterday, and I was wondering how these two were actually going to relate to each other. And how we were if they were going to be common themes. And that's really funny to actually come

across and see how everything is actually very common. Because this, the same comments came along, which is the idea that this is too broad, this is not well defined enough. And we need to actually give a bit more, exaggerate the differences and exaggerate a bit more than the nuances that we are trying to end to bring in in those items, because it's not clear enough, which is already like one of one of the mentioned that you actually brought in. And the only thing that I wanted to speak about also was we decided to keep it on the as the observer for now, the only reason for this is because there are some research that suggests that there may be a difference between the prospective so whether that's an interviewer interviewee or observer actually rating. So we didn't want to take a stand. Now we're doing side experiments just to see if we could get any replication and find out a bit more information about this. And in the long term, if this generic version with the observer point of view actually works, we were actually thinking to actually develop it, and maybe actually have one for each perspective, and then see further down the line, how that works all together, but have different version of it for different perspectives as well. But we decided to keep it from the observer now, and I understand completely what you meant with appeared, because that's something that we really, really struggle with. So I'm not sure in this case, do you think maybe putting a more direct word like just simply was, or it wasn't rewedding, it's likely would actually work better?

LC 17:30

For me, because I specifically for me, I don't think even if you if you removed appeared, it's still going to be the observers subjective view of what they perceived happening. And I think, as, as CK said, you know, if you're in it, you can you can get the feeling of how things are going from your perspective. But again, you know, you could have a situation whereby you think it's all fine, but the other person, actually, you know, they have disliked the whole whole process, and an observer who's not actually involved will have a different perspective. So,

again, I think you're, you're it's a really difficult with what you're asking them to assess going back to WT's point, you know, working well together, that's such a subjective view, whether you have the word appeared in there or not, it's still going to be a subjective interpretation from my might my take upon it.

CK 18:29

Yeah, I agree with that. And I'd love sorry, as I'm kind of a broken record here. It's and LC's absolutely right, that these are all subjective measures. And the point of developing these kind of coding systems is to, to kind of take as much of that subjectivity out of it as possible. And that's why we get into this, you know, to a different conversation about interrater reliability, but, you know, interrater reliability is there to try to kind of put some guide rails on that subjectivity and to quantify this objectivity. So, being as crystal clear in your indicators as possible is, is the path to minimizing the subjectivity?

WT 19:13

And from from sort of my angle, I think the it's not the it's not the thing about appearing to get along well, I think he's given the whoever is going to code this, like CK said, at some stronger guidelines, what of what that looks like. So so, you know, even if you said, are the interviewer an interview, we getting along well, and took that appearing out? I think you still you still need to give them some guidance. Like I said, What does that look like, you know, not talking over each other turn taking, reflecting on topics and things like that. I think you'd have to bring in some criteria like that to nail down what that means.

LC 19:55

And I think I think Celine, I think the difficulty here you have as well is so if we go back to, you know, because a lot of this is is going to be in terms of what they're seeing. So let's look at you know, appear to work well together, there appears to be a close connection between the interviewer and interviewee. One thing that subjectively somebody might look for is, well, is

there eye contact between the interviewer and interviewee? Are they you know, are they looking each other in the eye? And, and you know, is that that going on? But then obviously, we know, in some cultures for some people that they're going to feel very uncomfortable doing that. And so, you know, are you know, so how somebody from one culture may develop a close connection with somebody else from a different culture is going to be different to two people from from the same culture. So I think you're getting into hugely complex elements when you then got somebody from potentially yet another culture observing it, bringing their cultural norms of what a close connection looks like.

Celine Brouillard 21:03

Yeah, that makes total sense. And I like we agree on that with Fiona and Adrian we also worked on this project, obviously, we looked at this, and we were not sure whether to include that category altogether. Because although it's important, it's difficult. It's just so impossible to instrumentalize, that we are still actually trying to find a way to do this properly. And even have other students actually helping us to try to actually have more brains on the task anyway. But yeah, so that's a really good point, raise your bring in together. And it is really interesting to see how everyone actually agrees on that on that front. So yeah, so I think, I think we don't even have to actually go through the items individually, because that's the same pattern across this entire part. Really. These were the main items to discuss here. But if we look at the next one, which is slightly less in agreements, only one person actually flagged these I think this is pretty much the same kind of situation where we talked about whether someone was comfort comfortable between the the interaction was comfortable between the interviewer and interviewee, which is, I think, the same issue. And whether those have are actually positive in positive indicators of them of gene interaction. So I think should I say that this is the same as we just talked about? This is slightly the same kind of theme.

CK 22:36

Yes. I think you said you couldn't see us. We're all nodding our heads, I see everybody. It's just gonna vocalize that.

Celine Brouillard 22:47

Because I can't really see anyone really like into my slides.

WT 22:52

I think you're absolutely right there. Celine. I think it's that idea of you. **If you look at all our comments on there. It's all a question of what do these phrases actually mean?**

KL 23:07

So KL, here. So I completely agree **with all that subjectivity comments? I don't have anything to add.** But something else that kind of popped out to me with a couple of the items is that it seems to be moving in towards the kind of genuine rapport territory. And if I'm correct, you can please correct me if I'm wrong, that you're looking at the professional rapport building, right. Yeah. Yeah. So things like the the genuine interest and you know, close connection. So in addition to kind of, you know, the subjectivity or vagueness of it, then you have well, is this now moving into the genuine rapport territory?

Celine Brouillard 23:44

Yeah, so we, we didn't want to actually go towards the genuine rapport first, for the simple reason that we'd rather actually stick to professional rapport and have something that is more functional than then engineering in that in that situation, we will, we also realize that we can't, we can't get out of that genuine report, because it's in every single research, and it's it everywhere, really. So we had to actually code them and had these items to measure because they were present in a systematic review that we had done previously. And what we aim to do is really like just to discuss and see what we do at the end. So this is why we've got the expert evaluation, just so we can make informed decision now and then actually go on and do

something that is already much more based on a consensus consensus really. So we can move on to the next section, which is paying attention. Possibly maybe, is a little easier than mutual connection. But yeah, so the first one where the interviewer understood what the interview was feeling? I'm not sure if anyone wants to jump in.

LC 25:08

With the first one is is something that I was was sort of highlighting and and I think we would all agree that, again, the interview feeling with the person is very much for me what empathy is all about. So that's important. I just again, I think that there is the danger by saying the interviewer understood how the interview was feeling. Because, again, you know, we've all had it, I'm sure the instance where somebody says, Oh, I understand how you're feeling. And there's no way that the person can understand how they're feeling they can feel with you. But so and so that's why I was just a little bit concerned to sort of say, well, you know, you can understand the interviewer understood how the interview, I think, that the interviewer sought to understand sought to demonstrate that they had heard how the interview is feeling is a more apt descriptor, rather than they actually understood because I would say, to be fair, nobody can ever understand how somebody else is feeling. Exactly. So that's where I where my definition my explanation was coming from.

KL 26:23

So the build on what LC was saying, that seems to kind of be the difference between empathy, which is talked about kind of in that category and sympathy. So how do we it to me that that's what it seems to be trying to tease apart here? And how is the interviewer showing sympathy? If that is relevant? Did they experience a similar event that they are trying to sympathize with? Or is it just empathy that they're showing? So I think kind of, again, specificity around those two would be kind of helpful here.

WT 26:53

Yeah, I mean, LC, hit the nail on the head there the idea of I mean, we've all had interviews where you turn over somebody say, like, I understand how you're feeling, and then the room explodes? Because they go, Oh, really? Do you? And it's just like a disaster. So. So interview, I think, I think empathy is the key thing. So it's not so much that the interviewer understood how the interviewer was feeling. But it's exhibiting those behaviors that genuinely show a genuine desire to learn about that person. And that's, that's really where you get the empathy from is that, you know, I genuinely want to be I want to learn how I want to learn about your experience and how you came to be here. And that is more than that's better than that sort of sympathetic, I understand approach was that will bite you on the backside, maybe nine times out of 100.

CK 27:54

And I think the empathy part is really important. And my, my kind of pithy comment here was about, like, how do you again, measure this kind of stuff. And as we're talking through this, and pulling back, something WT, I think, correctly mentioned a couple of times from the mutual connection categories that this paying attention category, or axis or whatever, however, you're defining these things, whatever you're calling them. You know, it's about communication. And, you know, asking open ended questions and allowing the person to talk rather than interrupting them. Indicators of reflective listening or minimal encouragers. Go on, tell me more about that. Those are all kinds of things that like, allow for the person to have that kind of sense of, of being heard, that's obviously related to empathy. And then it's all related to rapport of course, but like, I think a stronger push for communication indicators here is warranted in this paying attention to like, I liked that you pay attention, of course, but again, how do you measure listening?

WT 29:13

I wonder, I wonder if you could one area to look at for this might be sort of your poor Taylor's work on sense making. And the idea of you if somebody is, you know, talking in that identity space about feelings about emotions or or you're giving out that communication, if somebody stays instrumental and is still not picking up on that, and changing their approach to move with what the person in front of them to do it and there'll be a real key for me about lack of empathy. So you know, if you've got that person in front of you puts their head in their hands and is obviously distraught, and they can pick up on that cue and say, Is anything wrong? Do you look like this problem? Is anything wrong? Equally if they start talking about your problems they've got and the interviewer is dismissive and sort of said, Yes, that's really interesting anyway, so we're talking about, oh, you killed your wife. It's that there's a lot to be learned from the sensemaking aspect about the empathy thing, I think of communicating in that same frame as then.

LC 30:25

Just Just following on from what WT was just saying there. So when I was looking at this, I and I made the reference to what what I would describe what WT was talking about, there were empathetic opportunities. So opportunities to demonstrate empathy, to show empathy, to follow up with what somebody say. So Will Webster's work, he did some research a year or two ago, maybe more about empathetic opportunities, and whether they were picked up by the interviewer or not. And so that's very much for me, that goes back to what CK was saying, you know, you're looking there at the communication was the communication was there, you know, a deep enough level of listening, that they picked up on something the person said, and they then followed it up, as we were just saying, as opposed to, they're so focused on their goal, that they just ignore the empathetic opportunities. And then, and then empathy is, is possibly undermined, and rapport is undermined.

Celine Brouillard 31:32

Yeah, really, like, the empathic opportunity like and also sensemaking, I think we're, there is a couple of other student also working on this in the in our team, PhD team team all together. And I think it's interesting to just see your those could be actually implemented and how we could actually bring this in the measure as well. So that's definitely a good a good lead to look at in the future and see what we can bring it in and maybe actually refine things a bit better with real indicator and something that is a bit more tangible, I think. Yeah, so definitely. And the only thing that was gonna say is like, obviously, empathy, we had issue before with empathy as well. Being being such a big term, encompassing so many, so many things that it's difficult to just say, well, let's be empathic with interviewee simply. So So yes, we definitely need to actually work a bit more on defining these and just bringing something a bit more less vague, let's say so far. And the only thing I was going to finish with just maintain eye contact is also something that has to actually be discussed it I think, the fact that there are confounding variables is also an important point. Obviously, like something that we realized yesterday is we need it to rewire this in a appropriate way of maintaining eye contact, not to actually have people staring at the interview consistently. But that's something that we realize there's loads of little elements of it that we need to actually work on. And that's where I think is interesting in them for the next few weeks. Really.

LC 33:24

Yeah, I think the thing for me, Celine having having interviewed somebody who because of their culture, it would be very uncomfortable for her to make eye contact. I deliberately was not making a huge effort. While I was looking at her when I was speaking, I wasn't sort of moving my chair to try to make eye contact or anything like that, because actually doing that would, I think have undermined before. So I really do think that, you know, that's a real issue.

As WT has said that, you know, there are so many variables to bear in mind when looking at something.

CK 33:59

Yeah, and I will also note, I was in a training, it was a pilot training last month and oh god no June now. Anyway. We were doing so we have the participants doing role playing interviewing, we have given them some skills and, and I know Celine, you can't see me, but the other guys can make this one guy and he's an experienced detective with a local law enforcement, the United States. It was like, he did crystal meth before coming into that roleplay and just stared right into our roleplay interviewer. He was, like, intense, and he was maintaining eye contact, but it's not the contact that any of us wanted to experience. I was on the side being an observer because you know, it was part of the training, and I was getting uncomfortable and he wasn't even looking at me. This guy will look like he wanted to rip the roleplayers head off. But he was maintaining eye contact.

Celine Brouillard 34:57

I think that's the That's the beauty of like interpretation with rapport is that it doesn't matter how much information we actually give like, we need to be a bit more defined definitive and what we actually mean. Because at the end of the day, it actually is taken wrongly. Yeah, so be careful with that. Yeah. Does anyone wants to actually mentioned anything? Or any comments before actually move on to the next slide? Oh, there we go. I went too far, I think. Yeah, there we go. So that's the remaining items, I think for paying attention. I'm pretty sure this has to. This is pretty similar to what we said. Just now. I'm not sure if anyone wants to actually jump in and actually mentioned their comments here.

KL 35:51

Yeah, so for me, it's just kind of building stuff. CK had said. So you know, when the talking about listening? Well, it's really active listening. So you have those facilitators in there that

moves conversation along, you're using cued questioning. So you're showing them that you listen, you mentioned this, tell me more about that type of thing. So I think what seems to be kind of coming up to me is that we have these categories that don't seem as broad, maybe on the surface, but there are so many things that make up these simple categories for coding, that all kind of play a role here.

WT 36:30

Yeah, I mean, I mean, looking at that, I don't know if I highlighted the nodding thing, but I remember it from the I remember from the list, and I remember that sort of jarring with me. The interviewer listen to what the interviewer had to see. Again, you know, operationalize that, you know, if they're using it as part of the interview, if they're using it as part of their questioning skills, if they're reflecting back, if they're building what the person says, that's all very obvious. And that that's paying attention. The nodding thing, it's the same, it's the same as the eye contact thing. There's so many different variables there. I mean, I used to work with a guy who had a real sort of tick interview where you'd be talking and you're good. Yeah, yeah. Yeah, every five seconds to the point where you said, Well, you just bloody Shut up. And stop nodding your head, because that's getting annoying now. And so then, I think the body language, I mean, body language is a nightmare area. Do you know, I mean, we've all we all know that. And I think anything as simple as nodding or maintaining eye contact is dangerous as indicator for you. If you're, if you're giving it to somebody who doesn't understand interviewing, just to code. Nodding, can come across as sort of paying attention, it can also just mean I'm not paying attention to you at all, ask my wife. You know, mean? And I like I really like I think that's LC's point there about the emotions, you know, acknowledging the interviewees emotions that, you know, again, it's it's more about realizing the emotions rather than acknowledging because, you know, why you so grumpy? Well, I wasn't, I am now. You know, it's that thing of you can get in if naming emotions, naming

somebody else's emotions. You can get into real trouble with that. Yeah, just, just just language that. Sorry, LC. Sorry.

LC 38:43

Sorry, WT. Sorry, I thought you'd finished. I apologize. No, I was just going to, I think CK gave the absolutely perfect example of the danger of some of these being a little bit too simplistic, because if you say, the interviewer is nodding, it maintaining eye contact, then as CK said, then some people go oh, right. Well, that's what I've got to do. And they do it constantly. And and exactly. So I you know, when I train people, I say, you know, every so often say thank you to the interviewee, you know, to express gratitude for what they're doing. And then you have somebody who's saying thank you after every answer, and it just then becomes ridiculous, just as they never break eye contact. They're constantly nodding. And I think this is the danger as well is it's, you know, it's not a it's not a sort of binary, they shouldn't be nodding, and if they're not nodding, they're not compliant. You know, this, and this is where the challenge for coding comes in. Because coding is, is much more binary. Either they did this or they they didn't say this is the challenge that your you've got. And yeah, I think for me this again, as WT was just saying, with the emotions, especially again, I've seen it in so many occasions where an interviewer trying to demonstrate empathy. So I can see you're angry about this. I can see you're upset about this. And they misread it and they, they mislabel the emotion because emotions are very complex. And actually the interviewee then thinks, Well, you're not listening to me and you're you're not paying attention, because that's not the emotion I'm feeling, and rapport is then lost. So again, that's why I say I think acknowledging is it's got to be not preemptive and not sort of making a judgement. But instead, when the interviewee says, I'm upset about this, again, it's that demonstrating, as KL was saying, that active listening, okay, I've heard you I hate I hear you're upset about this, that is acknowledging emotion. But again, it's really going back to

that communication that we spoke about already. And it's going back to the reflecting that WT spoke about.

KL 40:54

So it seems like it's about doing these skills, but doing them appropriately. So not being a meth and staring at someone or not saying thank you after everything that someone says. But yeah, so we have all these important behaviors. But how do we train people to do them appropriately? And also, when coding for these things? How do we ensure that they understand what, you know, these appropriate use of these behaviors are?

WT 41:22

And just building on what KL said, there, this is this is my point about sort of judging.

Rapport in interview is you can't do it by just observing the interviewer. You know, it's that thing of it's a mutually mutually created, phenomenon in interview. So it has to be in response to something the interviewee does, or acts in some way.

Celine Brouillard 41:50

Think there's something that is often divided, they divide all of the the perspective all together, which mean there is not always reflective of what the interaction is, but more about how one person is reacting, rather than then really what is going on in the interaction. So that's something that we also struggle with. And it's something maybe that we need to refocus, when we look at this measure in particular, and how we want to call code thing in the future as well.

WT 42:21

I mean, is it again, is it possible that you when you give guidelines to people for coding this, you know, you, you give them examples of behaviors you'd like to see. Yeah, and I'm, again, I'm thinking of that. The examples I'm thinking of, or the examples that come from sort of, you know, motivational interviewing the idea of, you know, are they responding to the sort of

power level of the person in interview, you know, if somebody is very animated, or they're giving them that space, to talk, if they're very reticent. Are they giving them the proper guidance they need. But also the idea of interviewers, you know, are they responding to requests from, From an interviewee you know, if you get, if you get asked a question in interview, answer it, because they'll always just come back to it again and again and again. So you are they are they responding to the needs, and the requests of the person in front of them. And not just a not just in a sort of factual way, but in a relationship in their own way.

Celine Brouillard 43:36

It's all about the. I wouldn't say cooperation, but coherence between all of those elements in a way.

WT 43:48

Absolutely. I mean, and again, a good place to look for examples will be motivational interviewing. If you look at, if you look at I'm trying to think of the name of the there's a textbook that is given to counselors, I can't remember the name of it. If I remember it, I'll email it to you. But that's got lots of examples of behaviors that show attention in interview, it might be a good place for you to look for examples.

Celine Brouillard 44:19

Yeah, definitely. If you get the name, please send it to me that would be really, really lovely, thank you.

WT 44:25

I'll put it somewhere I've got it somewhere.

Celine Brouillard 44:29

I'm just aware of time. So I'm just gonna move on to the to the next section, which is building a relationship. So making an effort to actually create and personalize the interview in this

case. So I think the main comments here were these two which is interviewer with a shared interest and common grounds.

CK 44:57

I mean, I'm perfectly willing to be convinced that these aren't the same things with more description of what they would look like. But just on that kind of, you know, three settings of each one, it says like, are these really three different things? Or four different things? Whatever it was?

LC 45:17

Yeah, I would agree with that. And also, I very much agree with WT's comment, I think, again, we get we come back to some of the complexity here. Because, you know, I've sat in interviews with interviewers who, like, I've got, I've got to find common ground with this these person and you know, they're almost going through a litany of, oh, you know, you've not got children have you? Where have you been on what, you know, it's literally almost like, I've got to find some common ground. And so they spend so much time trying to, to do it, that actually it can go against where you're trying to what you're trying to achieve.

Celine Brouillard 45:55

Yeah, it makes sense. And like, I, I was just thinking about how many times someone has told me that to actually find common grounds. And how hard it is because something that we were really interested in is trying to actually build that so that frontline police officer or frontline, law enforcement can actually try to have at least some sort of some sort of guidelines are a bit more straightforward. And we were talking about this thinking, Well, they probably won't have the time to actually prepare for this anyway, they won't have the time to find common ground. So it's, it seems difficult to actually bring that in. And it's more of a random luck kind of game where they are trying to find something common that they have, with the interviewee really, at this point.

WT 46:43

And no pardon me, go on.

LC 46:49

I just very, very briefly, I'm just gonna say for me, we all have common ground because we're all human beings, and provided you treat the other person like a human being, and you recognize whatever it may be, you know, you check, would they like a drink? You check, you know, do they need the bathroom, you know, you treat them as you would want to be treated if your positions were reversed. That for me is the first step in building a relationship. And then it's everything else we've been talking about, but trying artificially to find common ground with somebody. That's where I have have a problem, but please weigh in. Sorry for jumping in.

WT 47:25

No, no. I mean, that's pretty much my point. The common ground thing I think, is sometimes it happens in interview and that's great. But a lot there's a lot of times where it's just not appropriate. You know, if I'm if I'm interviewing a 20 year old Jamaican Yardi, if I go in, you get that cool dad syndrome. not mean that sort of cool, cringing dad syndrome with if I'm interviewing a 20 year old Jamaican Yachty and I go in there speaking patois. I'm just gonna look like a jerk to mean and he's gonna say he's gonna think I'm some sort of idiot. It is cool dad syndrome. It's that thing of when you your teenage kids and got their friends around and you come in a and it's like, yeah, why don't you just get out? You know what I mean, it's I think common grounds massively overrated when it comes to things like this.

Celine Brouillard 48:14

Yeah, I think it's difficult one as well to actually just work on. Yeah, I think that those are very good point. And I really kind of, I really want to have so the point with these evaluation is for me to actually gather every information that was actually said in the in the discussion

meetings, and just have like, a plan or actually work on them and just have a brainstorming session just to actually think about this carefully and just see where we can go in actually, buildings

WT 48:45

are just I just seen the comment, I made there. The interview with Alec Minassian. Yeah, that is a really good, good piece of work. But there's actually a really interesting piece in here about common ground where the guy you know, he's talking to him about computer games. And, and sometimes the desire to build common ground can be really destructive because Minassian actually says to him, I play violent computer games to get rid of my urges. Now, anybody who's interviewing somebody will think oh, hey, brilliant what your urges let's go where's actually says oh, I play computer games as well. I play Call of Duty and it's that he's trying to build common ground and he's completely missed the point of the interview. So it can be I think it's massively overrated

Celine Brouillard 49:36

it's falling into Yeah, it's falling into a small I wouldn't say trap but trap of the what I should do rather than actually like taking the right answer at the time. Yeah, absolutely. I don't know if anyone wants to any wants to say anything else, but I'm just gonna move on to the the next one, I think the next one is the same category but I'm pretty sure this is almost the same kind of information to bring in, which is personal interest. And then the understanding or made an effort to understand the interviewee, which I think is a difficult thing to do as well, which we talked about a bit earlier as well.

WT 50:20

Yeah, I mean, just, you know, the interview I took a personal interest in interviewee, again, is that, at that that to me just needs defining because like, I can take a personal interest in you as in I want to understand you. And that's a good personal interest. Whereas having a personal

interest of do I am interested in you on a my personal level. Again, give you an example. If you look at the view of Rocky Rambo guy who axed people to get death in Canada Kogelo, his case, he chopped up people to death with axe. And at one point, the interviewer says to him, You know what I really care about you? And he says, Well, I don't think you do but carry on. And it completely kills it. Yeah. And that's that's the difference. So is this. When you say personal interest? Do you mean, I'm interested in you as a person? Or do I have to show that I am personally, not professionally but personally interested in you because that just two things, one of which just doesn't come across well.

Celine Brouillard 51:26

I think we had that conversation yesterday as well. And I think the personal interest was more about making sure the interviewee feels more like a person than a case, rather than being a personal interest in making sure that he like that, as you say, like, I really care about you is more about trying to really make sure we pay attention to every single individual information they're bringing in and, and really tailoring the the approach that the interviewer is taking rather than actually using the same approach with every single person they actually interviewed that day, for instance. So I think it's more of a humanizing. And in trying to work with the interviewee in that sense that we want to actually convey.

WT 52:14

And again, you do that as a coding, you'd have to make that really clear to the person who's doing the code. And it's not to say that they're trying to be interested in them as a person, not sort of show a personal feeling towards them. And then, again, that thing about sharing personal information. Yeah. Do you know what I'm, I've been married for 20 odd years now. And I've got a dog, a Border Collie, and I've got two teenage kids, one of which love my daughter, I love her to bits, my son, I keep him around in case I need a kidney. Now, there's an awful lot of personal sharing there. But I come across as a freak. I mean, it needs to be

appropriate. It needs to be appropriate. And also it's that thing of and to make it appropriate.

Again, it's respond to an interview, ie if the interviewee wants to go down that route of

personal sharing, perhaps you will, but you have to think about your own personal safety.

And you have to think about how appropriate

Celine Brouillard 53:19

Yeah, I think appropriateness is something to bring in quite a lot with a lot of them of the items, whether that's cultural awareness as we have here, but also sharing personal information and making sure we speak with them with their emotion or reflecting with their emotions, or even maintaining an eye contact, as we said earlier.

CK 53:38

We are all nodding your head, so

Celine Brouillard 53:42

I can't see really, as good really good to know, really. So thanks for letting me know. The only thing I would say is do you have any comments on cultural awareness and culture because I know culture is a big rising topic for rapport in particular. And we didn't want to not include it but we didn't also want to actually include it too much because it's still quite a debate. So don't know if you have any any comments on that.

WT 54:21

Just Just again, go on mate.

LC 54:24

Now you go first this time WT

WT 54:26

okay, just again, responding to the person in front of you. I mean, look, I look at my background, and I interviewed I used to interview a lot of people involved in national counterterrorism and when when we first started that it was always a thing of Oh, no, what

time prayers are and things like that, you know, and make sure you give them time to pray. And some of the people we were dealing with their, their activities weren't about religion, really. And yeah, they were technically Muslim, but they were massively religious. And, you know, they used to come into the room and you go salaam aleikum, and they go, Well, you weren't you were Muslim. Many of them know what the hell you're doing? And, and, and that thing of you are, it's time for prayer, you want to pray? And he's like, Well, no, I'll ask if I want to pray. You know, I don't always pray. I mean, you know, leave me alone. It's the appropriateness of it responding to the person in front of you.

LC 55:18

Yeah, very much what I was gonna say is echoing what WT said, again, I think the danger here is if you say, the interviewer demonstrated cultural awareness, what then the interviewer potentially thinks he's alright, before I interview this interviewee, I need to bone up on this person's background, their culture, so I can say whatever it might be, I can, I can be aware of prayers, whatever. And then they go in, and they may have, you know, they're then applying a stereotype, they're applying a generalization to an individual. Whereas the whole point about rapport in my view, is it's about connecting individual and individual. And so it rather, I would rather say to somebody, it's about being open that the person you're interacting with, may well have a different culture a different perspective than you. And don't go in with stereotypes. Don't try to fit this person into a box, because that will damage rapport, instead treat them as an individual. And so that's where, you know, that's where I would be focusing more rather than making people interpret this, because I can see an interview. So I'll write, I've got to have cultural awareness. So I need to read up on this, that and the other before I interview somebody from this country from from this background. So that's what where I would go go with it.

CK 56:39

Yeah, I think I think and this is, this is why we do focus groups is why you think about stuff we build on ideas. And I think this is where it's going. And I'm just kind of speculating here that, you know, let's leave aside psychological anthropology for a second. And think about emerging sociological work about how no offense to my colleagues here like we are with four white guys of a certain age that just happened to kind of fall into that general interviewer range. It's easier for us while it should be to recognize our positionality, relative to the person we're talking to, rather than know what time prayers are today, that we come from somewhere different, we recognize that often a place of privilege, definitely a place of power. And it might be easier for us to reflect upon our own cultural positionality vis-a-vis, the person we're speaking with, rather than try to, you know, offer some, you know, rote or surface level understanding of what they're doing. But that is pure speculation. I think if I think it sounds good, and I might write it down to start writing a paper on it later. But that's, that's really kind of speculative at this point.

WT 58:06

And I really liked that, CK. I really liked that as a sort of definition of a cultural sense. Cultural Awareness. Yeah. Realizing differences. Yeah, I really like that.

Celine Brouillard 58:20

I really like that that phrase, as well, realizing that the differences between the two where we stand and where the person in front of us stand, I think it's a really good way of saying it as well.

CK 58:35

Well, thank you.

Celine Brouillard 58:37

Only thing is, I'm aware of the time and I don't want to keep you too long either, because I'm aware, we all have different time zone here as well. So I'm just gonna move to them to the

last one of the last category, which is being approachable. And now just two main questions here, which is sensitive towards the interviewee and did not pressure the interview and I think this will probably relate to any of the of the comments we have made in the past. already.

KL 59:08

Yes, yes. I think the main thing that jumped out at me for the interviewer did not pressure the interviewee was this was kind of focusing on a negative thing and there was a ton of negatives that we could say so instead frame it as the positive so the interviewer provided space for the interviewee to talk they paused because if we switch the coding guide around and talk about negatives, then I mean, the list is endless. The interviewer did not smack the interviewee and, you know, of course, you know, being a bit exaggerated here but just trying to I guess keep it all on the same page.

Celine Brouillard 59:51

sorry, go ahead.

CK 59:53

No, you go finish it. Honestly.

Celine Brouillard 59:55

When we when we started we did have a lot of, of negatively worded items and we were really thinking about this, whether we should have, we should keep them all or not really, because they were all really, they could have been interesting. It could have been some interesting one, but they weren't quite extreme to bring that in a guideline to actually provide good practice. So we removed at some point because it was just not making sense to just keep having more negativity on and on and what they shouldn't do anyway.

CK 1:00:28

Yeah, and I think the this kind of these two comments from me were a piece of the earlier ones is just, you know, what do you mean by sensitive and pressure? Just just lack of specificity in the definition?

Celine Brouillard 1:00:46

Yeah, I think it's all about like trying to bring in more, more nuances, more nuances, and trying to actually be more definitive in the items and work reworking them as much as possible, just so just so they're clear enough. I think the last point I want to make sure we cover is the last section, which is being professional. It's a section that we again, do not know whether that's should be included or not, because that came out through the literature, the systematic review that we did as something that was quite relevant throughout the entire literature of assessment of rapport. So we brought it in as almost like a standard of what people should do, being professional trained to actually bring good practice all together. I'm not sure what you thought of that category. Or if you have any comments about the common you may have made on some of the items on the screen.

LC 1:01:48

So I'll just do briefly with mine, the two I highlighted, I think, I think actually, again, I'm I'm always thinking what would a person in practice, think about it, and having it the interviewer appeared sincere, implies you don't actually have to be sincere. It just needs to look like you're being sincere. And I have a real problem with that, because I think, you know, then there's always a, an implied message that you can be dishonest with the interviewee. And I think if you are dishonest with somebody, if you're trying to act, then that actually gets picked up and it damages rapport. So that's why I had a concern with the with the use of appeared. And also we go back to the subjective viewpoint we talked about with the with the first category. And then the other thing is just again, going back to CK's point about clarity, I just, I wasn't clear about the communication style. Because when I talk about communication

style, I'm referring to it from a cultural context and the fact that depending upon which culture you come from, you might have as I say, there, low context, high context, direct, indirect. And again, I don't think going back to WT's point, if you're dealing with so, you know, in the UK, it's very direct, very low context. I shouldn't try to speak in a high context indirect style with somebody who speaks in that style, because I'm not going to do it well, because that's not how I how I communicate. Instead, I've got to adapt to them. And I've got to recognize that if they speak in direct and, and high context, they won't give me a yes or no answer to a question. If I ask a closed question, it's going to be much more indirect. And so I don't interrupt. And so for me, it's again, it's about the interviewer adapted their communication to suit the interviewee is more what I would would be talking about, but again, that's that how you count that how you, you consider what's appropriate, we come back to the points we've made already.

CK 1:03:54

Agreed. And I'll wrap up my comment on this one here about is like, we would hope that everything in your spreadsheet comes under the banner of being a professional. And so maybe a different label for this, or maybe, maybe you integrate some of these components across the other ones, or it's just, you know, I would hope that a professional, especially a, not just a professional, you think you were professional, but somebody who has been trained in proper interviewing techniques, that then by a very definition is professional. And so maybe the just, that was just my, my one tick on that.

Celine Brouillard 1:04:40

We agreed on that. And we totally looked at this in the same way because when I when I when we tried to actually divide all of these across categories, we just thought well, this could literally be everywhere, could literally like just overlap with a lot of categories that we already have. So it's difficult to actually bring professionalism in it because how how are we

differentiating this From from the other element that we have here, and we we only kept that because we wanted to discuss things with people just to see what really what that would bring. So yeah, so it's really interesting to see how we actually have a shared view of how this may actually be overlapping already.

CK 1:05:21

I know doing this conceptually, as you're doing it is next to impossible to find like an orthogonal solution, where each one of these is perfectly independent from the others and yet, they all come under this giant banner and rapport, but like, you know, this one probably steps a little too far in for the other ones.

Appendix H: Ethics Documentation and Questionnaire of Study 1

Survey Flow

Informed Consent (2 Questions)
EmbeddedData PROLIFIC_PIDValue will be set from Panel or URL.
GDPR (1 Question) Attention check 1 (1 Question)
Randomizer: 1 - Evenly Present Elements
Randomizer: 3 - Evenly Present Elements
Video High Rapport (5 Questions) Video Moderate Rapport (5 Questions) Video Low Rapport (5 Questions)
Randomizer: 3 - Evenly Present Elements
Video High Rapport (5 Questions) Video Moderate Rapport (5 Questions) Video Low Rapport (5 Questions)
Attention check 2 (1 Question) Demographic data (7 Questions) Debrief (1 Question)

Informed Consent

Measuring rapport in professional intelligence-gathering contexts

You have been invited to take part in a research project focusing on measuring rapport in professional information-gathering contexts. The aim of this study is to develop and validate a new measure of rapport. We are interested in developing a clear set of items that measure verbal and non-verbal behaviours used to build rapport, as well as feelings of rapport.

This research is being undertaken as part of PhD in Psychology at Goldsmiths, University of London, led by Celine Brouillard and supervised by Prof. Fiona Gabbert & Dr. Adrian J. Scott.

What is rapport?

Obtaining reliable and detailed information is the most crucial goal for police interviews, but the person with the information may be reluctant to share information. Both practitioners and researchers, as well as the College of Policing, have agreed on the importance of building rapport in increasing disclosure of information and cooperation during a police interview.

Professional rapport-building refers to an intentional use of strategies to build rapport to facilitate a positive interaction and disclosure of information. A wide range of research has informed about behaviours or strategies which can be used to build rapport with an individual to increase the quantity and quality of information disclosed, for example, paying attention, personalising the interview to build a relationship, the interviewer presenting themselves as being approachable and being professional.

Why does this project matter?

There are various definitions of rapport and most measures of rapport built previously are poorly validated or not validated. Despite the amount of research conducted on this topic, there is currently no commonly accepted measure of professional rapport which can be reliably used.

Building rapport is a difficult skill to develop and train. Measuring rapport is vital to help police officers to develop their rapport-building strategies and assess their learning. If these measures of rapport are not validated, we cannot be sure the rapport-building skills being taught are learned and subsequently applied properly. In addition, a validated measure of

rapport would allow further research to be conducted, providing more insights regarding what aspects of rapport is necessary and when.

What do I have to do?

You will be presented to 3 interviews recorded on Microsoft Teams. You will watch an entire video of an interview which should last less than 10 minutes. Once you have watched each video, you will be asked to rate the amount of rapport you perceived in the interaction using the measure of rapport we have developed for each video. The study should take approximately 30 minutes to complete.

What do I get from this project?

Your participation will also be an enormous help in finishing the development and validation of our new measure of rapport.

- If you are a student at Goldsmiths, you may be eligible to receive research credits for your participation. These will be processed upon completion of the study and may take a moment to process. You will be asked to provide your student username during the experiment.
- If you are from Prolific, you are eligible to a reward. You will be provided with a question which will automatically enter your prolific ID. At the end of the survey a code will be provided for you to enter on Prolific.

Do I have to take part?

Your participation is entirely voluntary. Additionally, you can exit the questionnaire, skip questions, or withdraw your information at any point in the future.

What will happen to my information?

This study is strictly confidential. If the study was to be published, you would not be identifiable. You are not required to write any personal information on the questionnaire. At the end of the survey, you will be provided with a link leading you to another page and allowing you to enter your username. To allow you to withdraw your data in the future, you will be asked to create a personal code so that your data can be tracked and deleted. Your answers will be kept on the University secured OneDrive in the personal possession of the researchers who will comply with the requirements of the Data Protection Act. If you wish to have more information regarding your rights in this study, please follow this link regarding General Data Protection Regulation (GDPR): <https://ico.org.uk/your-data-matters/>.

Who has reviewed the study?

The study has been reviewed by the Research Ethics Committee at Goldsmiths, University of London.

Research Integrity

Goldsmiths, University of London, is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research.

I have question or an issue, what do I do?

Contact the lead researcher Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian J. Scott, (a.scott@gold.ac.uk) or alternatively the Chair of the Research Ethics Committee (y.kovas@gold.ac.uk).

Thank you for your participation!

Tick the boxes below to confirm you are happy to take part and then click on the arrow at the bottom of the page to continue.

- I have read and understand the information in the consent form
- I understand data collected will be entirely confidential and no personal information will be required.
- I understand my participation is voluntary and can withdrawn at any point without an explanation.
- I confirm being over 18 years old.
- I consent to take part.

General Data Protection Regulation (GDPR)

To comply with GDPR we will not collect any information that can personally identify you such as your name or IP address. All data are collected anonymously. However, we also want you to be able to withdraw your data if you change your mind about the study. Therefore we ask you to create an identifying code known only to you

Goldsmiths full GDPR policy for research can be downloaded here [[GDPR - pdf](#)]

Write down the last three letters of your mother's maiden name and your month of birth (e.g. LIK09):

Survey

1. Prolific ID

Many thanks for agreeing to participate in the study.

What is your Prolific ID?

Please note that this response should auto-fill with the correct ID (alternatively, please enter the correct ID)

2. Attention check 1

Based on the text below, what would you say is your favorite drink?

This is a simple question. When asked about your favorite drink, you need to select coffee so that we know you are paying attention.

Water (1)

Coffee (2)

Tea (3)

Hot chocolate (4)

3. Instructions to all conditions

The video below shows an investigative interview in which an interviewer interacts with an interviewee to understand what happened during a mock crime event. This interview was recorded as part of a training programme whereby the interviewer was learning how to conduct an investigative interview, and the interviewee was actually an actor.

Please watch this video **once, carefully, and in its entirety** before answering the questions below. It is a maximum of 10 minutes long.

Once you have viewed the video and provided your ratings, the "continue" button will appear at the bottom right of the page (you might have to scroll down to find it).

Having any issues? Please feel free to take a screenshot of this before attempting any solution below.

The next button should appear after a few minutes. If that is not the case, you have a few solutions:

- Try to refresh the page.
- If the issue remains, copy the URL of the survey and close the page. Open your browser again and copy the URL again. Please use the same device and browser. Your answers should have been saved over time, which mean you can return to the study later by clicking on the link again.
- If the issue still remains, ensure you delete your cookies and try step 2 again.

4. Videos

Set of videos 1:

- High rapport: https://youtu.be/cA3586__ohA
- Medium rapport: <https://youtu.be/TiySy0i2PLE>
- Low rapport: <https://youtu.be/z0QvvY80dPk>

Set of videos 2:

- High rapport: <https://youtu.be/tvPeRDN6xiE>
- Medium rapport: <https://youtu.be/eAptvGUxI-Q>
- Low rapport: https://youtu.be/jQMqAbDK_nA

5. Post Videos Rapport-Pro Ratings

You have just observed an interaction between two parties relating an incident. The interviewer was asking questions to understand what exactly happened in as much detail as possible.

Think about how both interactants behaved, spoke, and reacted to one another during the interview.

From what you observed of the interaction between the interviewer and interviewee, please now indicate the extent to which YOU agree each of the statements below.

Please rate the interview based on what you believe to be true about this interaction from the statements below:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
There was a natural flow of conversation between the interviewer and interviewee. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee were comfortable in each other's presence (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and interviewee was appropriately paced. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and interviewee was cooperative. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee demonstrated an understanding of one another (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The interviewer and the interviewee demonstrated an interest in one another (6)

The interviewer listened to what the interviewee had to say. (7)

The interviewer was attentive to the interviewee. (8)

The interviewer took the time to consider what the interviewee said. (9)

The interviewer was appropriately empathetic towards the interviewee. (10)

The interviewer was engaged with the interviewee. (11)

The interviewer was responsive to what the interviewee said. (12)

The interviewer made an effort to understand the interviewee. (13)

The interviewer took an interest in the interviewee. (14)

The interviewer tried to find common ground with the interviewee. (15)

The interviewer appropriately asked how the interviewee would prefer to be addressed. (16)

The interviewer was sensitive to the wellbeing of the interviewee (17)

The interviewer encouraged the interviewee to talk. (18)

The interviewer's tone of voice was conversational. (19)

The interviewer was patient with the interviewee. (20)

The interviewer created a safe space for the interviewee to share information. (21)

The interviewer reassured the interviewee. (22)

The interviewer had an open body posture. (23)

The interviewer was supportive of the interviewee. (24)

The interviewer treated the interviewee fairly. (25)

The interviewer was respectful towards the interviewee. (26)

The interviewer was sincere with the interviewee. (27)

The interviewer was confident when conducting the interview. (28)

The interviewer was polite towards the interviewee. (29)

The interviewer adapted their communication to suit the interviewee. (30)

6. Attention check 2

Based on the text below, what colour is a lemon?

The fresh lemon picked from a tree. Make sure to select red to show you are paying attention.

- Blue (1)
- Yellow (2)
- Red (3)
- Purple (4)

7. Demographics

How old are you?

What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (0)

Have you participated to this study before?

- Yes (1)
- No (0)

Are you currently studying at Goldsmiths and participating to this study through the Research Participation Scheme?

- No (0)
- Yes (1)

Are you participating to this study through Prolific?

- No (0)
- Yes (1)

Debrief

Thank you for taking part in this online research study.

Please click 'Next' to submit your responses! You will then be redirected to Prolific in order to include your completion code.

What have we done so far?

This project is part of a series of studies which aims to develop and validate a measure of rapport in investigative interview settings. Firstly, we systematically reviewed studies assessing rapport across different fields (criminal justice, counselling, educational psychology, etc.) and mapped the existing measures of rapport to extract previously used items. Secondly, we modified and adapted these items to fit the context of a police interview. We then, assessed the clarity and understanding of the items to ensure the items are properly worded with any ambiguous items being revised or discarded. A panel of 12 experts were then consulted to assess the content validity of the scale. This means verifying whether this scale is a good representation of rapport both in research and practice. This allowed us to come up with a first prototype which can then be tested and validated at further stages.

What are the next steps?

The information you have provided will allow us to statistically verify whether the theoretical structure of the measure we built is correct and whether all the items provide an important contribution to the measure. This represents the last steps in the development of our new measure. If successful, this study allows us to proceed to the validation of the measure. For instance, you may know of famous IQ, personality, or Anxiety tests. These are usually tested across several studies to ensure their validity, how well the test measures a concept of interest.

Why is this important again?

Training has been implemented to help police and law enforcement officers develop the skill of building rapport with an interviewee. Often, tools measuring rapport have been used to assess the performance of trainees and provide feedback. However, currently there is no universally agreed definition of rapport or commonly accepted validated measurement tool. Therefore, the interpretation of rapport can vary and widely impact its application.

Additionally, this would allow further research to be conducted to understand how best to define rapport and how to improve current measures.

Have we piqued your interest? Check these out!

- Goldsmiths Forensic Psychology Unit (FPU): for more information about investigative forensic psychology or other research in this field. You might also be interested in some of the events they are running to raise the general public's awareness of investigative processes. They also include a Cold Case Investigation Team (CCIT) which uses investigative psychology to help review and solve cold cases of missing persons. The team reviews a few cases of missing people in collaboration with Locate International. Perhaps you could help find more information about one of these cases!
- College of Policing website: for the best practice which police officers should follow when building rapport.

If you have any questions or would like to hear more about this research in the future, please do not hesitate to contact the researcher – Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian J. Scott, (A.Scott@gold.ac.uk), or alternatively the Chair of the Research Ethics Committee, (y.kovas@gold.ac.uk)

Thank you once again.

Appendix I: Ethics Documentation and Questionnaire of Study 2

Survey Flow

Informed Consent (3 Questions)
EmbeddedData PROLIFIC_PIDValue will be set from Panel or URL.
Randomizer: 1 - Evenly Present Elements
Block: Video High Rapport (3 Questions) Block: Video Medium Rapport (3 Questions) Block: Video Low Rapport (3 Questions)
Rapport-Pro (4 Questions)
Randomizer: 2 - Evenly Present Elements
Randomizer: 1 - Evenly Present Elements
Standard: Set 1 - Rapport Duke (3 Questions) Standard: Set 2 - Rapport Vallano (4 Questions)
Set 3 - other (7 Questions)
Demographic data (3 Questions) Debrief (1 Question)

Informed Consent

The Rapport-Pro: The validation of a new measure of rapport

You have been invited to take part in a research project focusing on measuring rapport in professional information-gathering contexts. The aim of this study is to develop and validate a new measure of rapport. We are interested in developing a clear set of items that measure verbal and non-verbal behaviours used to build rapport, as well as feelings of rapport.

This research is being undertaken as part of a PhD in Psychology at Goldsmiths, University

of London, led by Celine Brouillard and supervised by Prof. Fiona Gabbert & Dr. Adrian J. Scott.

What is rapport?

Obtaining reliable and detailed information is the most crucial for police interviews, but the person with the information may be reluctant to share information. Both practitioners and researchers, as well as the College of Policing, have agreed on the importance of building rapport in increasing disclosure of information and cooperation during a police interview.

Professional rapport-building refers to an intentional use of strategies to build rapport to facilitate a positive interaction and disclosure of information. A wide range of research has informed about behaviours or strategies which can be used to build rapport with an individual to increase the quantity and quality of information disclosed. For example, paying attention, personalising the interview to build a relationship, the interviewer presenting themselves as being approachable and being professional.

Why does this project matter?

There are various definitions of rapport and most measures built previously are poorly or not validated at all. Despite the amount of research conducted on this topic, there is currently no commonly accepted measure of professional rapport which can be reliably used.

Building rapport is a difficult skill to develop and train. Measuring rapport is vital to help police officers developing their rapport-building strategies and assess their learning. If these measures of rapport are not validated, we cannot be sure the rapport-building skills being taught are learned and subsequently applied properly. In addition, a validated measure of rapport would allow further research to be conducted, providing more insights regarding what aspects of rapport is necessary and when. Therefore, we developed the Rapport-Pro. The

current study aims to validate it by examining whether our items align with previously published measures on similar constructs.

What do I have to do?

You will be presented to one video showing an interaction between an interviewee and interviewer on Microsoft Teams. You will watch an entire video of an interview which should last less than 10 minutes. Once you viewed the video, you will be asked to rate the amount of rapport you perceived in the interaction using the measure of rapport we have developed for each video. In addition, you will also be provided with a set of 4 questionnaires including around 52 questions about the interaction you witnessed. The study should take approximately 20 minutes to complete. The questionnaires you are presented to are all related to the same construct, so it is likely that some of these questions seems repetitive or similar.

What do I get from this project?

Your participation will also be an enormous help in finishing the development and validation of our new measure of rapport. You will be provided with a question which will automatically enter your prolific ID. Once your participation is complete, we'll approve your reward using the automatic code.

We have also included verification that the tasks are performed properly. Firstly, there are some attention checks, so please pay attention and read the instructions carefully. In addition, we have included a timer allowing us to check how long you spend on each page. This is to verify that you spend enough time and watch the videos in their entirety. Finally, the next button is delayed and will appear after a while. **If you fail at least two attention checks or you speed through the questions, your participation will be rejected alongside your reward.**

If there are any issues during the survey, instructions are provided on each task. If your participation is timed out, this might be because of some technical issues or because you spent longer than the maximum time allowed by prolific. In this case, we cannot award your credits.

Do I have to take part?

Your participation is entirely voluntary. Additionally, you can exit the questionnaire, skip questions, or withdraw your information at any point in the future.

What will happen to my information?

This study is strictly confidential. If the study was to be published, you would not be identifiable. You are not required to write any personal information on the questionnaire. At the end of the survey, you will be provided with a link leading you to another page and allowing you to enter your username. To allow you to withdraw your data in the future, you will be asked to create a personal code so that your data can be tracked and deleted. Your answers will be kept on the University secured OneDrive in the personal possession of the researchers who will comply with the requirements of the Data Protection Act. If you wish to have more information regarding your rights in this study, please follow this link regarding General Data Protection Regulation (GDPR): <https://ico.org.uk/your-data-matters/>.

Who has reviewed the study?

The study has been reviewed by the Research Ethics Committee at Goldsmiths, University of London.

Research Integrity

Goldsmiths, University of London, is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research.

I have question or an issue, what do I do?

Contact the lead researcher Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian J. Scott, (a.scott@gold.ac.uk) or alternatively the Chair of the Research Ethics Committee (D.Mullensiefen@gold.ac.uk).

Thank you for your participation!

Please tick all of the boxes below if you are happy to take part in the study. Alternatively, please close your browser window to exit the study:

- I consent to take part.
- I confirm that I am 18 years old or over.
- I understand my participation is voluntary and I can withdraw at any point without explanation.
- I understand the data collected will be entirely confidential.
- I have read and understood the information in the consent form.

Survey

1. Instructions

The video below shows an investigative interview in which an interviewer interacts with an interviewee to understand what happened during a mock crime event. This interview was recorded as part of a training programme whereby the interviewer was learning how to conduct an investigative interview, and the interviewee was actually an actor.

Please watch this video **once, carefully, and in its entirety** before answering the questions below. It is a maximum of 10 minutes long.

Once you have viewed the video and provided your ratings, the "continue" button will appear at the bottom right of the page (you might have to scroll down to find it).

Having any issues? Please feel free to take a screenshot of this before attempting any solution below.

The next button should appear after a few minutes. If that is not the case, you have a few solutions:

1. Try to refresh the page.
2. If the issue remains, copy the URL of the survey and close the page. Open your browser again and copy the URL again. Please use the same device and browser. Your answers should have been saved over time, which mean you can return to the study later by clicking on the link again.
3. If the issue still remains, ensure you delete your cookies and try step 2 again.

2. Videos

High Rapport: https://youtu.be/cA3586__ohA

Moderate Rapport: <https://youtu.be/TiySy0i2PLE>

Low rapport: <https://youtu.be/z0QvvY80dPk>

3. Measures: Rapport-Pro

You have just observed an interaction between two parties relating an incident. The interviewer was asking questions to understand what exactly happened in as much detail as possible. Think about how both interactants behaved, spoke, and reacted to one another during the interview.

From what you observed of the interaction between the interviewer and interviewee, please now indicate the extent to which YOU agree each of the statements below.

Please rate the interview based on what you believe is true about this interaction from the statements below:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
There was a natural flow of conversation between the interviewer and interviewee. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee were comfortable in each other's presence (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The interaction
between the
interviewer
and
interviewee
was
appropriately
paced. (3)



The
interviewer
and
interviewee
demonstrated
an
understanding
of one another
(5)



The
interviewer
and the
interviewee
demonstrated
an interest in
one another (6)



The interviewer was attentive to the interviewee.

(8)

The interviewer took the time to consider what the interviewee said. (9)

The interviewer was appropriately empathetic towards the interviewee.

(10)



The interviewer was engaged with the interviewee.

(11)

The interviewer was responsive to what the interviewee said. (12)

The interviewer made an effort to understand the interviewee.

(13)

The interviewer took an interest in the interviewee.

(14)

The interviewer tried to find common ground with the interviewee.

(15)



The interviewer was sensitive to the wellbeing of the interviewee

(17)



The interviewer encouraged the interviewee to talk. (18)



The interviewer's tone of voice was conversational.

(19)



The interviewer created a safe space for the interviewee to share information.

(21)



The interviewer reassured the interviewee.

(22)



The interviewer had an open body posture.

(23)



The interviewer was supportive of the interviewee.

(24)



The interviewer treated the interviewee fairly. (25)

The interviewer was respectful towards the interviewee.

(26)

The interviewer was sincere with the interviewee.

(27)

The interviewer was confident when conducting the interview. (28)

The
interviewer
was polite
towards the
interviewee.

(29)

The
interviewer
adapted their
communication
to suit the
interviewee.

(30)



3. Attention checks 1

Based on the text below, what would you say is your favorite drink?

This is a simple question. When asked about your favorite drink, you need to select coffee so that we know you are paying attention.

- Water (1)
- Coffee (2)
- Tea (3)
- Hot chocolate (4)

4. Measures: Duke et al. (2018a)

Thank you for your answers and taking the time to fill our questionnaire.

We have a few more questions for you regarding your experience of the interview. Do not

worry if the following questions feels similar or repetitive, think back about the interview and rate the following with what fits best with your perspective of the interaction.

To what extent do you agree with the following statements based on your experience of the interaction?

Select **strongly disagree** if the statement is definitely false or if you strongly disagree.

Select **disagree** if the statement is mostly false or if you disagree.

Select **neutral** if the statement is about equally true or false, if you cannot decide, or if you are neutral about the statement.

Select **agree** if the statement is mostly true or if you agree.

Select **strongly agree** if the statement is definitely true or if you strongly agree.

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
The Interviewer was generally honest with the interviewee. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Interviewer did his/her job with skill during the interview. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Interviewer respected the interviewee's knowledge. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Interviewer and interviewee had culture in common. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Interviewer performed expertly during the interview. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Interviewer
could generally be
trusted to keep
his/her word. (6)

The Interviewer
and the
interviewee
probably shared
the same
ethnicity. (7)

The Interviewer
really listened to
what the
interviewee had to
say. (8)

The interviewee
was motivated to
perform well
during the
interview. (9)

The interviewee
felt they could
trust the
Interviewer to
keep his/her
word. (10)

The Interviewer
made an effort to
do a good
job. (11)

The Interviewer
acted like a
professional. (12)

The Interviewer
paid careful
attention to the
interviewee's
opinion. (13)

The Interviewer
and the
interviewee got
along well during
the
interview. (14)

The Interviewer
and the
interviewee
worked well
together as a
team. (15)

The Interviewer probably shared the interviewee's culture. (16)

The interviewee wanted to do a good job during the interview. (17)

The Interviewer was attentive to the interviewee. (18)

Communication went smoothly between the Interviewer and interviewee. (19)

The Interviewer was interested in the interviewee's point of view. (20)

The interviewee
felt committed to
accomplishing the
goals of the
interview. (21)



5. Measures: Vallano and Schreiber Compo (2011)

Rate the level of rapport you perceived from the performance of the interviewer and the interaction you just witnessed according to the statement below.

Example: The interviewer was..... (1) not smooth at all, (4) somewhat smooth or (7) extremely smooth.

The interviewer was...

	Not at all... (1)	(2)	(3)	Somewhat... (4)	(5)	(6)	Extremely.... (7)
Smooth (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bored (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfied (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awkward (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engrossed (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involved (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friendly (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The interaction was...

	Not at all... (1)	(2)	(3)	Somewhat... (4)	(5)	(6)	Extremely... (7)
Well-coordinated (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boring (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperative (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harmonious (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsatisfying (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uncomfortably paced. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awkward (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engrossing (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfocused (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involving (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intense (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Friendly (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dull (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worthwhile (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slow (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Attention Checks 2.

Based on the text below, what colour is the lemon?

The fresh lemon picked from a tree. Make sure to select red to show you are paying attention.

- Blue (1)
- Yellow (2)
- Red (3)
- Purple (4)

7. Measure: Watson & Clarke ()

We have a few more questions about your perception of the interaction.

Do not worry if the following questions feel similar or repetitive, think back about the interview and rate the following with what fits best with your perspective of the interaction.

To what extent do you feel the following statement represents the interviewer during the interaction you witnessed earlier:

	Not at all (1)	A little (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
Angry (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hostile (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scornful (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disgusted (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loathing (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alert (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attentive (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concentrating (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determined (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calm (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At ease (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxed (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Measure: Fasseart et al. ()

Read the following statement and select how often you felt this was the case during the interview.

The interviewer...

	Never (1)	Sometimes (2)	Moderately (3)	Most of the time (4)	Always (5)
Showed not to be distracted during the interview. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Was not off-hand or hasty. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listened attentively. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gived interviewee time and space to present the problem. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used exploring questions. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spent time on social talk. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Was good in leading the conversation. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Expressed
understanding
non-
verbally. (2)

9. Attention checks 3

I am interested by purseing a degree in parabanjology.

Pick strongly agree to show you are paying attention.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

10. Measures: Ohanian ()

When thinking about the interview you witnessed, to what extent do you agree the interviewer was...

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Undependable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Dependable
Dishonest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Honest
Unreliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reliable
Insecere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sincere
Untrustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Trustworthy
Not an expert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Expert
Inexperienced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Experienced
Unknowledgeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Knowledgeable
Unqualified	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Qualified
Unskilled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Skilled

11. Demographics

How old are you?

What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

What is your prolific ID?

Please note that this response should auto-fill with the correct ID

Debrief

Thank you for taking part in this online research study!

Please click 'Next' to submit your responses! You will then be redirected to Prolific.

What have we done so far?

This project is part of a series of studies which aims to develop and validate a measure of rapport in investigative interview settings. Firstly, we systematically reviewed studies assessing rapport across different fields (criminal justice, counselling, educational psychology, etc.) and mapped the existing measures of rapport to extract previously used items. Secondly, we modified and adapted these items to fit the context of a police interview. We then, assessed the clarity and understanding of the items to ensure the items are properly worded with any ambiguous items being revised or discarded. A panel of 12 experts were then consulted to assess the content validity of the scale. This means verifying whether this scale is a good representation of rapport both in research and practice. This allowed us to

come up with a first prototype which can then be tested and validated at further stages.

What are the next steps?

This is the first step of the validation of our tool measuring rapport. For instance, you may know of famous IQ, personality, or Anxiety tests. These are usually tested across several study to ensure their validity, how well the test measures a concept of interest. The information you have provided will allow us to statistically verify whether the theoretical structure of the measure we built is correct and replicated from our last study. We also included different measures of trust, active listening, professionalism and rapport which would allow us to examine if our measure is positively associated with other constructs associated with rapport or measures of rapport. If this is successful, it will suggest our measure appropriately assess the construct we are interested in and it'll kick start the final phase of the validation whereby we will test whether the measure successfully detects rapport when different levels of this construct are manipulated under experimental control.

Why is this important again?

Training has been implemented to help police and law enforcement officers develop the skill of building rapport with an interviewee. Often, tools measuring rapport have been used to assess the performance of trainees and provide feedback. However, currently there is no universally agreed definition of rapport or commonly accepted validated measurement tool. Therefore, the interpretation of rapport can vary and widely impact its application. At the moment, this particularly affects official guidelines and training provided to law enforcement. Additionally, this would allow further research to be conducted to understand how best to define rapport and how to improve current measures.

Have we piqued your interest? Check these out!

- [Goldsmiths Forensic Psychology Unit \(FPU\)](#): for more information about investigative forensic psychology or other research in this field. You might also be

interested in some of the events they are running to raise the general public's awareness of investigative processes. They also include a Cold Case Investigation Team (CCIT) which uses investigative psychology to help review and solve cold cases of missing persons. The team reviews a few cases of missing people in collaboration with Locate International. Perhaps you could help find more information about one of these cases!

- [College of Policing website](#): for the best practice which police officers should follow when building rapport.

Please be assured all data collected will be treated in the strictest confidence. You are free to withdraw your data from the research at any time by contacting Celine Brouillard <c.brouillard@gold.ac.uk>.

If you were unduly or unexpectedly affected by taking part in the study, please feel free to feed it back to the researcher. If you feel unable for whatever reason to talk with the researcher, please either contact the Chair of the Research Ethics Committee, <D.Mullensiefen@gold.ac.uk>, Celine Brouillard <c.brouillard@gold.ac.uk>, Fiona Gabbert, <f.gabbert@gold.ac.uk>, Adrian J. Scott <a.scott@gold.ac.uk> or Heads of Department, José van Velzen, <j.vanvelzen@gold.ac.uk> and Rebecca Charlton, <r.charlton@gold.ac.uk>

Thank you once again.

If you are from Prolific, press the arrow below to be re-directed to the website to complete this study.

Appendix J: Pre-registration of Study 3

The Rapport-Pro: Validating a new measure of rapport – Study (AsPredicted #156041)

Created: 12/20/2023 04:19 PM

1. Have any data been collected for this study already?

No, no data have been collected for this study yet.

2. What's the main question being asked or hypothesis being tested in this study?
 - How do subcomponents of rapport interact with each other and contribute to building rapport? Are all the components of rapport equally contributing to rapport?
 - Are previous findings replicated suggesting that the Rapport-Pro can detect increases of rapport?
 - Are strategies associates with each subcomponent of rapport sufficient to elicit a feeling of rapport/ mutual connection? And is a mutual connection necessary in order to build rapport?

3. Describe the key dependent variable(s) specifying how they will be measured.

Professional Rapport ratings measured by the Rapport-Pro on a 5-point Likert scale including *mutual connection, paying attention, building a relationship, being professional* and *being approachable* as subcomponents of rapport. Average scores for overall rapport ratings, and ratings for each subcomponent will be generated.

4. How many and which conditions will participants be assigned to?

The design is a fully between-subject design. Four main subcomponents of rapport will be manipulated in 5 main conditions presented in videos:

- Control: The interviewer uses strategies associated with being professional as the most basic unit of rapport.
- Paying Attention: In addition to being professional, the interviewer uses strategies associated with paying attention only to build rapport with the witness.
- Building a Relationship: In addition to being professional, the interviewer uses strategies associated with building a relationship only to build rapport with the witness.
- Being Approachable: In addition to being professional, the interviewer uses strategies associated with being approachable only to build rapport with the witness.
- Combined: In addition to being professional, the interviewer uses strategies associated with paying attention, building a relationship and being approachable to build rapport with the witness.

Mutual connection will not be manipulated as it relates to a feeling, but will be measured and analysed. Three version of the videos exists for each condition in order to control for the effect of the video or interviewer.

5. Specify exactly which analyses you will conduct to examine the main question/hypothesis.
 - A one-way between subject ANOVA on the overall ratings of rapport between the five conditions with Post Hoc analyses if significant.
 - One-way between subject ANOVAs for each subcomponent of rapport's ratings between the five conditions with Post Hoc analyses.

6. Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

If outliers are found, they will be investigated to ensure their presence does not significantly affect the results of the study. Advice from the participant recruitment platform (Prolific) will be applied: two attention checks will be included as part of the survey allowing the researchers to reject participation if both checks were failed. Prolific allow rejections for studies that are completed 3 standard deviations below the average, if participants are too quick at completing the study. If participants take too long on the study, they will be timed out automatically.

7. How many observations will be collected or what will determine sample size? No need to justify decision but be precise about exactly how the number will be determined.

A total of 200 participants will be recruited through Prolific using the online Qualtrics survey. Participants will be over 18 and speak English fluently. A power analysis suggested that 200 participants, 40 per conditions would be sufficient to reach a power of .80 with a moderate effect size (0.25) and an alpha of .05. Participants will receive the equivalent of £6/hour on Prolific for their study participation.

8. Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

Nothing else to pre-register.

Appendix K: Scripts for Study 3

Common scripts across all condition

Interviewer: Good morning/ afternoon/ evening Katerine. Today is the [date], and the time is [time]. I'm Detective Smith, and I appreciate you taking the time to speak with me. We're here to discuss the incident at the Corner Mart. The purpose of this interview is to gather your firsthand account of the events to aid in our investigation.

Before we begin, I'd like to mention that this interview is being recorded for coding and analysis purposes. This helps ensure accuracy and allows us to review the information later as needed. The case number for this investigation is 2023-56789.

To get started, may I please have your full name for the record?

Interviewee: Yes, my name is Katerine Johnson

1. Questioning phase

Interview Phase #1: Free recall

Interviewer: Please tell me everything you remember about what you witnessed. You must provide as much information as you can about the video you watched. I want you to walk me through what happened to you. Please do not try to guess.

Interviewee: Okay. So, me and my friend Lizzie were in the store, just browsing around. We noticed this guy acting weird, you know, pacing up and down the aisles. It was like he didn't know what he was doing, and he seemed nervous. He kept looking around and fidgeting with his hands. So, he goes up to the cash register, wants to buy some chips or something. But then, as soon as the clerk opens the register, the guy pulls out this knife, and points it at him. Then the clerk gave him the money, and the guy turns to leave. But that's when he sees Lizzie

near the entrance. He threatens us, says not to follow him or he'll use the knife. And that was it, he just ran away.

2. Interview Phase #2: Cued Recall

Interviewer: I would like to ask you more questions about some of the elements you mentioned earlier. When exactly did this incident happen?

Interviewee: I believe this was last Thursday, maybe around 5p.m. I remember it because it was already getting dark.

Interviewer: OK. You talked about a man acting weird, can you describe what he was wearing?

Interviewee: He had on this dark hoodie, sunglasses, even though it was getting dark outside. I couldn't really see his face well. He didn't have anything distinctive.

Interviewer: OK and what about his appearance?

Interviewee: I would say that he was white and had dark brown hair. I can't remember much about his face, but he had dark eyes, I think.

Interviewer: You also mentioned he had a knife and had threatened you and your friend? Do you remember anything about the weapon?

Interviewee: Yeah, maybe it was about 5 inches? It had a black handle, looked sharp. No markings or anything. And he said I think something like, "Don't think about following me or I'll use this."

Interviewer: Was there anything distinctive in his voice or the way he spoke to you?

Interviewee: Yeah, it was different, I think he had an accent. Maybe Eastern European. It stood out to me, and he seemed serious about his threat, seemed like he was nervous and in a hurry.

Interviewer: Thank you for that. After the threat, where did the suspect head to?

Interviewee: He bolted out of the store and headed east on Elm Street I'm pretty sure, I know the area pretty well one of my friends lives around here.

2. Closing phase

Interviewer: Thank you for sharing, Katie. Your detailed account is extremely valuable for our investigation. If anything, else comes to mind, don't hesitate to let me know.

Interviewee: Yeah, sure. I just want to help catch that guy.

Fictional incident report

Incident Report: Case #2023-56789

Date and Time: November 17, 2023, at approximately 7:45 PM

Location: Corner Mart, 123 Main Street

Reporting Officer: Detective Smith, Badge #789

Involved Parties: Mr. Patel (Store Clerk)

Witness's Name: Katerine Johnson

Witness's Close Friend's Name: Lizzie (Elizabeth) Smith

Incident Details:

At the mentioned date and time, an armed robbery occurred at the Corner Mart. Mr. Patel, the store clerk, reported that an unidentified male suspect entered the store wearing a dark hoodie and sunglasses. The witness, Katerine Johnson, and the witness's close friend, Lizzie (Elizabeth) Smith, were present at the scene.

Sequence of Events:

7:42 PM: The suspect, a male of estimated mid-20s, entered the store, exhibiting suspicious behaviour. Witnesses noted the suspect's nervous demeanour, fidgety movements, and a distinctive dark hoodie with no visible logos.

7:43 PM: The suspect approached the cash register to purchase a bag of chips. At this point, the suspect pulled out a small knife, approximately 5 inches in length, with a black handle, and pointed it at Mr. Patel, threatening bodily harm if he did not comply.

7:44 PM: Mr. Patel, fearing for his safety, promptly complied, opening the cash register and surrendering an undisclosed amount of currency to the suspect.

7:45 PM: The suspect, holding the knife, turned to exit the store, encountering Lizzie (Elizabeth) Smith, who was near the entrance. The suspect, described as approximately 5'10" in height with a slim build, verbally threatened Lizzie (Elizabeth) Smith, stating, "Don't think about following me or I'll use this." The suspect then fled the scene on foot.

Direction of Escape: The suspect fled eastbound on Elm Street, disappearing around the corner.

Clothing Description: The suspect wore a dark hoodie with no visible logos, sunglasses, and dark jeans. Witnesses could not confirm any distinct markings or patterns on the clothing.

Accent/Tone of Voice: Witnesses noted that the suspect spoke with a distinct accent, described as possibly Eastern European. The tone of voice was anxious and demanding during the threat.

Description of Suspect:

Gender: Male

Age: Estimated mid-20s

Height: Approximately 5'10"

Build: Slim

Attire: Dark hoodie with no visible logos, sunglasses, dark jeans

Weapon: Small knife, approximately 5 inches in length, black handle

Accent/Tone of Voice: Witnesses noted that the suspect spoke with a distinct accent, described as possibly Eastern European. The tone of voice was anxious and demanding during the threat.

Witness Accounts:

- Witness Katerine Johnson:

Physical State: Katerine Johnson appeared visibly shaken and anxious. The witness-maintained composure but exhibited signs of distress, including trembling hands and a heightened state of alertness.

Emotional State: Katerine Johnson described feeling a mix of fear and disbelief during the incident. The witness expressed concern for Mr. Patel's safety and conveyed a lingering sense of unease following the suspect's departure.

- Witness's Close Friend, Lizzie (Elizabeth) Smith:

Physical State: displayed signs of shock and distress. The witness was observed clutching the edge of a nearby shelf for support, exhibiting rapid breathing and a pale complexion.

Emotional State: Lizzie (Elizabeth) Smith described feeling terror during the verbal threat, expressing ongoing anxiety and fear for personal safety. The witness is visibly distraught by the incident.

Response Actions:

7:47 PM: Mr. Patel activated the store's panic button, prompting the immediate response of Detective Smith.

7:48 PM: Detective Smith arrived at the scene, securing witness statements, and initiating the investigation.

Detective Smith's Interaction with Witnesses:

Detective Smith approached the witnesses with calm and reassuring demeanour, introducing himself and expressing gratitude for their cooperation.

He acknowledged the traumatic nature of the incident and assured the witnesses that every effort would be made to apprehend the suspect.

Detective Smith encouraged the witnesses to provide detailed statements, emphasising the importance of their account in aiding the investigation.

He provided information on available victim support services and offered resources for counselling to help cope with the emotional aftermath of the event.

Mr. Patel's Status:

Mr. Patel, the store clerk, was physically unharmed during the incident. However, he was visibly shaken and emotionally distressed.

Detective Smith ensured that Mr. Patel received immediate support and offered resources for counselling to help cope with the emotional impact of the robbery.

Current Status:

The suspect remains at large. The store's surveillance footage is being reviewed to aid in the investigation, with a focus on the suspect's actions and the threat made to Lizzie (Elizabeth) Smith.

Follow-up Actions:

Retrieve and analyse surveillance footage.

Conduct interviews with potential witnesses in the vicinity.

Prioritise the identification and location of the suspect based on the additional threat to Lizzie (Elizabeth) Smith.

Officer's Note:

The witnesses, Katerine Johnson and Lizzie (Elizabeth) Smith have cooperated fully with the investigation and have been thanked for their assistance.

Conclusion:

The investigation is ongoing, and updates will be provided as more information becomes available. The heightened threat level due to the direct threat to Lizzie (Elizabeth) Smith is a priority in the ongoing investigation. The witnesses may benefit from additional support and counselling resources.

Appendix L: Ethics Documentation and Questionnaire of Study 3

Survey Flow

Informed Consent (1 Question) GDPR + Consent (3 Questions)
EmbeddedData PROLIFIC_PIDValue will be set from Panel or URL.
Randomizer: 1 - Evenly Present Elements
Control (being professional) 1 (7 Questions) Control (Being professional) 2 (7 Questions) Control (Being professional) 3 (7 Questions) Paying Attention 1 (7 Questions) Paying Attention 2 (7 Questions) Paying Attention 3 (7 Questions) Building a relationship 1 (7 Questions) Building a relationship 2 (7 Questions) Building a relationship 3 (7 Questions) Being approachable 1 (7 Questions) Being approachable 2 (7 Questions) Being approachable 3 (7 Questions) Combined 1 (7 Questions) Combined 2 (7 Questions) Combined 3 (7 Questions)
Demographic data (3 Questions) Debrief (1 Question)

Informed Consent

The Rapport-Pro: The validation of a new measure of rapport

You are invited to take part in a research project that focuses on measuring rapport in professional information-gathering contexts. The aim of this study is to validate a new measure of rapport that has been developed. We are interested in developing a clear set of items that measure verbal and non-verbal behaviours used to build rapport, as well as feelings of rapport.

This research is a student project being undertaken as part of a PhD in Psychology at Goldsmiths, University of London, led by Celine Brouillard and supervised by Prof. Fiona Gabbert & Dr. Adrian J. Scott.

What is rapport?

Obtaining reliable and detailed information is crucial for police interviews, but not all interviewees are cooperative, and the person with the information may be reluctant to share it. Both practitioners and researchers, as well as the College of Policing, have agreed on the importance of building rapport in increasing both cooperation and the disclosure of information during a police interview.

Professional rapport-building refers to an intentional use of verbal and non-verbal behaviours to build rapport to facilitate a positive interaction and disclosure of information. For example, paying attention, personalising the interview to build a relationship, the interviewer being professional, and presenting themselves as being approachable.

Why does this project matter?

Despite the amount of research conducted on the benefits of building rapport, there is currently no commonly accepted measure of professional rapport which can be reliably used.

Building rapport is a difficult skill to develop and train. Measuring rapport is vital to help police officers developing their rapport-building strategies and assess their learning. If these measures of rapport are not validated, we cannot be sure the rapport-building skills being taught are learned and subsequently applied properly. In addition, a validated measure of rapport would allow further research to be conducted, providing more insights regarding what aspects of rapport is necessary and when. Therefore, we developed the Rapport-Pro. As part of previous studies, the study was validated suggesting that our measure can detect rapport when it is being manipulated. To continue our validation quest, we would like to see

how different components of rapport interact with each other and contribute to building rapport overall.

What do I have to do?

You will be asked to watch a video showing an interaction between an interviewee and interviewer (approx. 5 minutes). Once you viewed the video, you will be asked to rate the amount of rapport you perceived in the interaction using the measure of rapport we have developed. The questionnaire consists of 26 questions, so the study should take approximately 10-15 minutes to complete.

What do I get from this project?

Your participation will also be an enormous help in finishing the development and validation of our new measure of rapport. You will be provided with a question which will automatically enter your prolific ID. Once your participation is complete, we'll approve your reward using the automatic code.

We have also included verification that the tasks are performed properly. Firstly, there are some attention checks, so please pay attention and read the instructions carefully. In addition, we have included a timer allowing us to check how long you spend on each page. This is to verify that you spend enough time and watch the videos in their entirety. Finally, the next button is delayed and will appear after a while. If you fail at least two attention checks or you speed through the questions, your participation will be rejected alongside your reward.

If there are any issues during the survey, instructions are provided on each task. If your participation is timed out, this might be because of some technical issues or because you spent longer than the maximum time allowed by prolific. In this case, we cannot award your credits.

Do I have to take part?

Your participation is entirely voluntary. Additionally, you can exit the questionnaire, skip questions, or withdraw your information at any point in the future.

What will happen to my information?

This study is strictly confidential. If the study was to be published, you would not be identifiable. You are not required to write any personal information on the questionnaire. At the end of the survey, you will be provided with a link leading you to another page and allowing you to enter your username. To allow you to withdraw your data in the future, you will be asked to create a personal code so that your data can be tracked and deleted. Your answers will be kept on the University secured OneDrive in the personal possession of the researchers who will comply with the requirements of the Data Protection Act.

Who has reviewed the study?

The study has been reviewed by the Research Ethics Committee at Goldsmiths, University of London.

Research Integrity

Goldsmiths, University of London, is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research.

I have question or an issue, what do I do?

Contact the lead researcher Celine Brouillard (c.brouillard@gold.ac.uk) or her supervisors Prof. Fiona Gabbert, (f.gabbert@gold.ac.uk) & Dr. Adrian J. Scott, (a.scott@gold.ac.uk) or alternatively the Chair of the Research Ethics Committee (D.Mullensiefen@gold.ac.uk).

Thank you for your participation!

The General Data Protection Regulation [GDPR] and Goldsmiths Research: guidelines for participants

Please note that this document does not constitute, and should not be construed as, legal advice. These guidelines are designed to help participants understand their rights under GDPR which came into force on 25 May 2018.

Your rights as a participant (data subject) in this study

The updated data protection regulation is a series of conditions designed to protect an individual's personal data. Not all data collected for research is personal data.

Personal data is data such that a living individual can be identified; collection of personal data is some-times essential in conducting research and GDPR sets out that data subjects should be treated in a lawful and fair manner and that information about the data processing should be explained clearly and transparently. Some data we might ask to collect falls under the heading of **special categories data**. This type of information includes data about an individual's race; ethnic origin; politics; religion; trade union membership; genetics; biometrics (where used for ID purposes); health; sex life; or sexual orientation. This data requires particular care.

Under GDPR you have the following rights over your personal data:

- The right to be informed. You must be informed if your personal data is being used.
- The right of access. You can ask for a copy of your data by making a 'subject access request'.
- The right to rectification. You can ask for your data held to be corrected.

- The right to erasure. You can ask for your data to be deleted.
- The right to restrict processing.
- The right to data portability. You have the right to get your personal data from an organisation in a way that is accessible and machine-readable. You also have the right to ask an organisation to transfer your data to another organisation.
- The right to object. You have the right to object to the use of your personal data in some circumstances. You have an absolute right to object to an organisation using your data for direct marketing.
- How your data is processed using automated decision making and profiling. You have the right not to be subject to a decision that is based solely on automated processing if the decision affects your legal rights or other equally important matters; to understand the reasons behind decisions made about you by automated processing and the possible consequences of the decisions, and to object to profiling in certain situations, including for direct marketing purposes.

Please note that these rights are not absolute and only apply in certain circumstances. You should also be informed how long your data will be retained and who it might be shared with.

How does Goldsmiths treat my contribution to this study?

Your participation in this research is very valuable and any personal data you provide will be treated in confidence using the best technical means available to us. The university's legal basis for processing your data² as part of our research findings is a "task carried out in the public interest". This means that our research is designed to improve the health, happiness and well-being of society and to help us better understand the world we live in. It is not going to be used for marketing or commercial purposes.

In addition to our legal basis under Article 6 (as described above), for special categories data as defined under Article 9 of GDPR, our condition for processing is that it is “necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes”³.

If your data contributes to data from a group then your ability to remove data may be limited as the project progresses, when removal of your data may cause damage to the dataset.

You should also know that you may contact any of the following people if you are unhappy about the way your data or your participation in this study are being treated:

- Goldsmiths Data Protection Officer – dp@gold.ac.uk (concerning your rights to control personal data).
- Chair, Goldsmiths Research Ethics and Integrity Sub-Committee - via reisc@gold.ac.uk, REISC Secretary (for any other element of the study).
- You also have the right to lodge a complaint with the Information Commissioner’s Office at <https://ico.org.uk/make-a-complaint/>

This information has been provided by the Research Ethics and Integrity Sub-Committee with advice from the Research Services and Governance and Legal Teams.

Version: 13 August 2018

¹ <https://ico.org.uk/your-data-matters/>

² GDPR Article 6; the six lawful bases for processing data are explained here: <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/>

³Article 9 of the GDPR requires this type of data to be treated with great care because of the more significant risks to a person’s fundamental rights and freedoms that mishandling might cause, eg, by putting them at risk of unlawful discrimination.

Please tick all of the boxes below if you are happy to take part in the study. Alternatively, please close your browser window to exit the study:

- I consent to take part.
- I confirm that I am 18 years old or over.
- I understand my participation is voluntary and I can withdraw at any point without explanation.
- I understand the data collected will be entirely confidential.
- I have read and understood the information in the consent form.

General Data Protection Regulation (GDPR)

To comply with GDPR we will not collect any information that can personally identify you such as your name or IP address. All data are collected anonymously. However, we also want you to be able to withdraw your data if you change your mind about the study. Therefore, we ask you to create an identifying code known only to you.

Goldsmiths full GDPR policy for research can be downloaded here [[GDPR - pdf](#)]

Write down the last three letters of your mother's maiden name and your month of birth (e.g. LIK09):

Survey

1. Prolific ID

Many thanks for agreeing to participate in the study.

What is your Prolific ID?

2. Instructions

We would like you to watch a ~5-minute video showing an investigative interview where a witness is being interviewed about a crime they saw. The interviewer in the video had recently been trained to use the following three strategies to build rapport with interviewees.

- Paying attention to the witness.
- Building a relationship with the witness.
- Being approachable.

Note that despite being trained on how to build rapport, not all interviewers are skilled at using these techniques, so they might or might not display these strategies.

Your task is to rate how good the interviewer is at using these three strategies to build rapport, while watching the video. There are a number of questions below for you to answer; some relate to the video; some are attention checks. Please watch this video once in its entirety whenever you are ready.

Please click on the arrow button once you have viewed the video and provided your ratings to continue. The "arrow" button will appear at the bottom right of the page after a few minutes (you might have to scroll down or left to right to find it).

Having any issues? Please feel free to take a screenshot of this before attempting any solution below.

The next button should appear after a few minutes. If that is not the case, you have a few solutions:

Try to refresh the page.

If the issue remains, copy the URL of the survey and close the page. Open your browser again and copy the URL again. Please use the same device and browser. Your answers should have been saved over time, which means you can return to the study later by clicking on the link again.

If the issue still remains, ensure you delete your cookies and try step 2 again. Unfortunately, if the issues persist, we cannot assist further, and your participation may be lost.

3. Videos

Control condition:

1. <https://youtu.be/IqJQJFINjxM>
2. <https://youtu.be/KUrtT5ebJwI>
3. https://youtu.be/7ZdpyD_CorE

Paying Attention condition:

1. https://youtu.be/IM0W_0GCdKE
2. <https://youtu.be/LqIXhcdDIPM>
3. <https://youtu.be/y0ahIiQu79A>

Building a Relationship condition:

1. <https://youtu.be/D2uTmx8CTPw>
2. <https://youtu.be/AL1q5K5uAUE>
3. <https://youtu.be/vnGkGsx7yX8>

Being Approachable condition:

1. <https://youtu.be/DArcXvc72Kg>
2. <https://youtu.be/cdCs5FUyiDs>
3. <https://youtu.be/7aolqUmNrjg>

Combined component condition:

1. <https://youtu.be/YpyGCGmHg-0>
2. <https://youtu.be/p-lapgXp3Mc>

3. <https://youtu.be/K36eWEvunjU>

4. Attention checks 1

Based on the text below, what colour is a lemon?

The fresh lemon picked from a tree. Make sure to select red to show you are paying attention.

- Blue (1)
- Yellow (2)
- Red (3)
- Purple (4)

5. Post-video Rapport-Pro ratings

The interaction between the two parties relates to an incident. The interviewer is asking questions to understand what exactly happened in as much detail as possible.

Think about how both interactants behave, speak, and react to one another during the interview.

From what you observe of the interaction between the interviewer and interviewee, please indicate the extent to which **YOU** agree with each of the statements below.

Please rate the interview based on what you believe is true about this interaction from the statements below:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
There was a natural flow of conversation between the interviewer and interviewee. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee were comfortable in each other's presence. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between the interviewer and interviewee was appropriately paced. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and interviewee demonstrated an understanding of one another. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer and the interviewee demonstrated an interest in one another. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interviewer was attentive to the interviewee. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The interviewer took the time to consider what the interviewee said. (9)

The interviewer was appropriately empathetic towards the interviewee. (10)

The interviewer was engaged with the interviewee. (11)

The interviewer was responsive to what the interviewee said. (12)

The interviewer made an effort to understand the interviewee. (13)

The interviewer took an interest in the interviewee. (14)

The interviewer tried to find common ground with the interviewee. (15)

The interviewer was sensitive to the wellbeing of the interviewee. (17)

The interviewer encouraged the interviewee to talk. (18)

The interviewer's tone of voice was conversational. (19)

The interviewer created a safe space for the interviewee to share information. (21)

The interviewer reassured the interviewee. (22)

The interviewer had an open body posture. (23)

The interviewer was supportive of the interviewee. (24)

The interviewer treated the interviewee fairly. (25)

The interviewer was respectful towards the interviewee. (26)

The interviewer was sincere with the interviewee. (27)

The interviewer was confident when conducting the interview. (28)

The interviewer was polite towards the interviewee. (29)

The interviewer adapted their communication to suit the interviewee. (30)

6. Attention Checks 2

Based on the text below, what would you say is your favorite drink?

This is a simple question. When asked about your favorite drink, you need to select coffee so that we know you are paying attention.

- Water (1)
- Coffee (2)
- Tea (3)
- Hot chocolate (4)

7. Demographics

How old are you?

What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

What is your prolific ID?

Please note that this response should auto-fill with the correct ID

Debrief

Thank you for taking part in this online research study.

Please click 'Next' to submit your responses! You will then be redirected to Prolific.

What have we done so far?

This project is part of a series of studies which aims to develop and validate a measure of rapport in investigative interview settings. Firstly, we systematically reviewed studies assessing rapport across different fields (criminal justice, counselling, educational

psychology, etc.) and mapped the existing measures of rapport to extract previously used items. Secondly, we modified and adapted these items to fit the context of a police interview. We then, assessed the clarity and understanding of the items to ensure the items are properly worded with any ambiguous items being revised or discarded. A panel of 12 experts were then consulted to assess the content validity of the scale. This means verifying whether this scale is a good representation of rapport both in research and practice. This allowed us to come up with a first prototype which can then be tested and validated at further stages. Our theoretical framework suggests that five main components interact and contribute to building rapport: 1. *mutual connection* (e.g., being in "synch"), 2. *paying attention* (e.g., nodding), 3. *building a relationship* (e.g., personalising the interview), 4. *being approachable* (e.g., have an open body posture) and 5. *being professional* (e.g., treat the interviewee fairly and respectfully). The idea is that components 2 to 5 can be implemented by the interviewer in order to facilitate a mutual connection to be built.

What are the next steps?

This is the second step of the validation of our tool measuring rapport. For instance, you may know of famous IQ, personality, or Anxiety tests. These are usually tested across several studies to ensure their validity, how well the test measures a concept of interest. So far, we have confirmed that the theoretical framework fits with observed data and is valid. However, we were interested in exploring the interaction between each component of rapport and whether one has a greater contribution in the development of rapport. If this is successful, it will suggest our measure appropriately assesses the construct we are interested in and demonstrate that different components of rapport have differing importance.

Why is this important again?

Training has been implemented to help police and law enforcement officers develop the skill of building rapport with an interviewee. Often, tools measuring rapport have been used to

assess the performance of trainees and provide feedback. However, currently there is no universally agreed definition of rapport or commonly accepted validated measurement tool. Therefore, the interpretation of rapport can vary and widely impact its application. At the moment, this particularly affects official guidelines and training provided to law enforcement, Additionally, this would allow further research to be conducted to understand how best to define rapport and how to improve current measures.

Have we piqued your interest? Check these out!

- [Goldsmiths Forensic Psychology Unit \(FPU\)](#): for more information about investigative forensic psychology or other research in this field. You might also be interested in some of the events they are running to raise the general public's awareness of investigative processes. They also include a Cold Case Investigation Team (CCIT) which uses investigative psychology to help review and solve cold cases of missing persons. The team reviews a few cases of missing people in collaboration with Locate International. Perhaps you could help find more information about one of these cases!
- [College of Policing website](#): for the best practice which police officers should follow when building rapport.

Please be assured all data collected will be treated in the strictest confidence. You are free to withdraw your data from the research at any time by contacting Celine Brouillard <c.brouillard@gold.ac.uk>.

If you were unduly or unexpectedly affected by taking part in the study, please feel free to feed it back to the researcher. If you feel unable for whatever reason to talk with the researcher, please either contact the Chair of the Research Ethics Committee,

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Thank you once again.

If you are from Prolific, press the arrow below to be re-directed to the website to complete this study.