



Rapport Building: Online Vs In-Person Interviews

FULL REPORT

MARCH 2021

Ewout Meijer
Katherine Hoogesteyn

Brianna Verigin
Danielle Finnick

Rapport Building: Online Vs In-Person Interviews

FULL REPORT

Ewout Meijer, Maastricht University, Netherlands
Katherine Hoogesteyn, Maastricht University, Netherlands
Brianna Verigin, Maastricht University, Netherlands
Danielle Finnick, Maastricht University, Netherlands

This report details the key findings of work conducted by the CREST commissioned project *Rapport-Building: Online Vs. In-Person Interviews*. You can view all the outputs from this project at: crestresearch.ac.uk/projects/rapport-building-online-vs-in-person

This research was funded by the Centre for Research and Evidence on Security Threats – an independent Centre commissioned by the Economic and Social Research Council (ESRC Award: ES/N009614/1) and which is funded in part by the UK security and intelligence agencies and Home Office.

www.crestresearch.ac.uk



TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	4
RAPPORT-BUILDING: ONLINE VS IN-PERSON WITNESS INTERVIEWS	6
METHOD.....	8
MATERIALS	10
RESULTS.....	17
WHERE NEXT?	21
READ MORE	22
APPENDIX A: INTERVIEW SCRIPT	26

EXECUTIVE SUMMARY

The psycholegal literature stresses the importance of rapport for a successful investigative interview. Rapport is believed to be effective because it makes interviewees feel more comfortable and safer, fostering cooperation, and encourages witnesses to try to recall information, facilitating information gain. Indeed, experimental research has found rapport-building to increase the likelihood as well as the accuracy of disclosure from both child and adult witnesses.

The tactics recommended for rapport-building consist of verbal (e.g. finding common ground) and non-verbal behaviours (e.g. displaying empathy) behaviours. Most of the research has examined rapport in in-person contexts, where both types of behaviours are present.

Not all interviews, however, take place face-to-face. The internet has transformed the way individuals communicate, and online communication is now ubiquitous and common. In this study, we were interested in the effectiveness of conducting online witness interviews via chat, which de-emphasises the use of non-verbal rapport behaviours, compared to traditional in-person interviews.

Participants ($N = 131$) experienced a virtual reality scenario depicting a mock crime and were interviewed either in person or online via the chat function on Skype. We found that participants perceived rapport more positively when interviewed in person on three out of the five measures: *attentiveness*, *trust/respect*, and *expertise*.

This indicates that, in witness interviews, non-verbal behaviours are instrumental for the quality of rapport, which fits with earlier reasoning that non-verbal behaviours are key elements in the development of feelings of rapport between communicators. These results also suggest that there could have been detrimental effects of anonymity. Excluding non-verbal

behaviour potentially causes hesitation or even distrust in assessing the interviewer as a professional.

Two other measures, *cultural similarity* and *connected flow* were not perceived differently across the interview medium. These two measures focus more on the interviewer-interviewee dynamic. Relevant for the use of chat in witness interviews is the lack of difference in the *connected flow* subscale, which measures interviewees' perceived ease of communication with the interviewer.

Considering that the purpose of rapport is to facilitate the communication between interviewers and interviewees and foster disclosure, it is relevant that participants in the chat condition felt as connected to the interviewer as those in person.

Even though our results showed that chat interviews may be less appropriate for building rapport in some respects, this did not result in the reporting of less crime-related details and lower overall statement accuracy. Notably, we did find that in-person interviews yielded a greater number of peripheral details in comparison to chat interviews. This finding fits with the notion that online environments promote more focused, direct interactions.

However, participants interviewed in-person also provided more incorrect details. This observation can be interpreted in light of the social expectancies of in-person interactions. Participants interviewed in-person may have felt more pressured to provide information when prompted with follow-up questions post free recall (i.e. "Is there anything else you can tell me about..."), thus providing peripheral details they were less confident about.

In sum, we found that in-person interviews yielded better rapport ratings than interviews via chat but were equally productive in terms of the quality of information

obtained, as measured by crime-related details and accuracy. Practically, our findings emphasise that when witnesses are interviewed via chat, interviewers must carefully consider how to compensate for the lack of those non-verbal rapport tactics that influence witnesses' perceptions of *attentiveness*, *trust/respect*, and interviewer's *expertise*.

Continuing our understanding of online rapport-building will help inform best witness-interviewing practices in an increasingly digitised society.

RAPPORT-BUILDING: ONLINE VS IN-PERSON WITNESS INTERVIEWS

Recent research on investigative interviewing revealed one overarching factor that is crucial for the quality of the interview: rapport (e.g. Clarke & Milne, 2001; Fisher & Geiselman, 1992). Through rapport-building, investigators can develop a working and positive relationship with the interviewee (Abbe & Brandon, 2013; Kelly et al., 2013; Gabbert et al., 2020).

Rapport is believed to be effective because it makes interviewees feel more comfortable and safer, fostering cooperation (Geiselman et al., 1984), and encourages witnesses to try to recall information, facilitating information gain (Fisher, 1995). Indeed, in witness scenarios, experimental research has found rapport-building to increase the likelihood as well as the accuracy of disclosure from child (Almerigogna et al., 2008; Leander et al., 2009) and adult witnesses (Collins et al., 2002; Kieckhafer et al., 2014; Nash et al., 2014).

Importantly, police investigators also regard rapport as a key aspect of their interviewing practice, acknowledging its effectiveness for obtaining a greater quantity and quality of information from witnesses (De La Fuente Vilar et al., 2020; Vallano et al., 2015).

Rapport is generally built through the use of several verbal and non-verbal behaviours, or tactics. Verbal tactics include, for example, establishing common ground, by which investigators discuss shared interests with interviewees, using similar language as the interviewee (e.g. slang), and engaging in self-disclosure, where the investigator shares about themselves (Kelly et al., 2013).

Examples of non-verbal rapport tactics include adopting an empathetic demeanour by showing kindness and respect, shaking hands with the interviewee upon meeting, leaning forward to demonstrate attentiveness,

and engaging in active listening through eye-contact and affirmative responses (e.g. nodding; Abbe & Brandon, 2014).

Rapport building tactics are typically studied in face-to-face interactions, which include both verbal and non-verbal behaviours. Not all interviews, however, take place face-to-face. The internet has transformed the way individuals communicate (Braeutigam, 2006), and online communication is now ubiquitous and common.

Consequently, there is growing interest in examining the viability of conducting witness interviews remotely via computer-mediated communication (e.g. Hamilton et al., 2017; Nash et al., 2014; Taylor & Dando, 2018).

In a recent study, for example, Taylor and Dando (2018) examined the effectiveness of conducting witness interviews in a virtual environment in which witnesses and investigators communicated via avatars. The authors proposed that avatar-to-avatar communication may be beneficial for witness' memory recall by attenuating the social and situational demands of in-person interactions. Indeed, they found that witnesses interviewed via avatars outperformed those interviewed in-person, suggesting that the remote aspect of the interview, and thus the absence of another actual person, may have been the most important factor for improved performance.

Moreover, although they did not measure rapport per se, Taylor and Dando also found that participants interviewed via avatars felt greater ease while engaging with the investigator compared to those interviewed in-person.

Studies such as Taylor and Dando's (2018) and the increasing interest in remote witness interviews

brings to question how rapport is built online, and particularly, how the lack of in-person interactions, and the consequent lack of non-verbal behaviours, affects its development.

In other fields, such as in healthcare, for example, this has been a topic of increased interest, as the use of chat counselling is becoming widespread. Individuals increasingly seek the chat format of counselling due to its convenience, and notably, for the anonymity and emotional safety it provides (King et al., 2006; Skinner & Latchford, 2006).

A general concern is that the absence of non-verbal behaviours in chat counselling is detrimental for rapport and therapeutic alliance (Fenichel et al., 2002; Richards et al., 2018), however, research has found that counsellors are equally as successful in building rapport with clients via chat interactions as they are in person (e.g. Ekberg et al., 2013; Lopez et al., 2019). This would suggest that, in some settings, non-verbal behaviours are not always instrumental for building rapport.

There are also reasons to assume non-verbal behaviours are important for the quality of investigative interviews. Sztompka (1999) posited that trustworthiness – a concept parallel to rapport (see Brimbal et al., 2019; Duke et al., 2018) – is most likely to be gained in circumstances of intimacy, familiarity, and closeness; and least likely in circumstances of anonymity and distance.

Sztompka (1999) argued that the internet limits trust and online interactions generate more suspicion than in-person interactions due to the lack of non-verbal and auditory behaviours that individuals typically use to develop trust (see Henderson & Gilding, 2004). In sum, it remains to be established whether the lack of non-verbal behaviours affects the quality of rapport-building in witness interviews.

There are theoretical reasons to believe excluding non-verbal rapport-building tactics will be detrimental, but there are also reasons to believe it may benefit

the quality of the interview. For this reason, in the present study, we compared mock-witness interviews conducted via online chat, as chat interactions completely exclude the use of non-verbal behaviours, to traditional face-to-face interviews, thus providing us with a more comprehensive understanding of the importance of non-verbal rapport tactics in witness interviews.

METHOD

DESIGN

This study consisted of an experimental design with one independent variable: interview medium (online chat vs. in-person)¹. The study was approved by the ethical committee at our university.

PARTICIPANTS

We recruited 149 students from our university. Eighteen participants had to be excluded due to country of birth ($n = 9$), previous experience with the VR scenario ($n = 3$), familiarity with the investigator ($n = 2$), investigator error ($n = 2$), technical difficulties ($n = 1$), or double participation ($n = 1$).

Thus, the final sample consisted of 131 participants (104 women and 27 men), with an average age of 21.62 ($SD = 3.25$).

Seventy-three were randomly assigned to the online condition and 58 to the in-person condition. Participants were compensated with a €15 voucher or 1.5 research credits (via SONA Systems) for their participation.

The majority of participants originated from Germany ($n = 62$) and the Netherlands ($n = 33$), and the rest came from diverse backgrounds: Belgium ($n = 6$), Vietnam ($n = 5$), India ($n = 3$), Mexico ($n = 3$), Indonesia ($n = 2$), Sri Lanka ($n = 2$), Turkey ($n = 2$), UAE ($n = 2$), China ($n = 1$), Curacao ($n = 1$), Cyprus ($n = 1$), Ecuador ($n = 1$), Egypt ($n = 1$), Ghana ($n = 1$), Kuwait ($n = 1$), Taiwan ($n = 1$), Uruguay ($n = 1$), and Venezuela ($n = 1$).

PROCEDURE

Interested participants were invited to take part in the study about virtual reality (VR). Upon arriving at the laboratory, participants were provided with a consent form and instructions. They were informed that they would be partaking in a VR scenario in which they were to meet a close friend of theirs and that they would find a third person together. Once participants confirmed that they understood their objective, they were asked to put on the VR equipment (headset and headphones) and began the VR experience.

In the VR experience (previously used in Hoogesteyn et al., 2019), participants found themselves in an alleyway and were given some seconds to familiarise themselves with the environment. They were then approached by the friend who started conversing about the previous night, alluding that they were hanging out together.

A third man then approached, looking to cross over to the other side of the alleyway. The friend then proceeded to rob the man of his watch. The man refused to hand over the watch and addressed the participant directly, asking to help control the friend.

At this point, the friend became frustrated and took out a gun, demanding the watch to be handed over. Ultimately, the friend pulled the trigger, shooting the victim who falls to the ground. The friend then advised the participant to run as he fled the scene. That was the end of the VR experience, which lasted 1 minute and 44 seconds.

¹ This study initially included another variable: cultural background. Due to COVID-19, it was not possible to continue data collection and therefore we had to drop this factor. Original power analysis revealed that with power set at 0.80, $\alpha = 0.5$, and a medium effect size ($f = 0.25$) we needed a total of 180 participants. A post hoc power analysis dropping the cultural background variable revealed that for the current design we still had sufficient power (0.81) to detect a medium effect size.

The VR simulation was created in the Unity 3D application, the programming language used within Unity was C# ("C-sharp") and the graphics were created in Blender 3D and then imported into Unity. Everything was displayed through an HTC-Vive VR headset.

Following the VR, participants were told that a police officer needed to interview them about what happened. Depending on their pre-assigned interview medium condition, participants were instructed either to sit and wait for the investigator or to sit down in front of the computer as the investigator would contact them over Skype's chat function.

In the in-person condition, participants were also reminded that the interview would be audio-recorded. The experimenter did not leave the room until the investigator arrived or began the conversation over Skype, so to prevent participants from thinking that the same experimenter was conducting the interviews disguised as the investigator, and therefore prevent any rapport carry-over effects.

After the investigator greeted participants in person or over chat, they first explained the purpose of the interview and continued to interview them with a standardised, rapport-focused interview script.

After the interview portion, the experimenter came back to the room and instructed participants to complete a set of questionnaires. Upon completion of the questionnaires, participants were debriefed and compensated with research credits or a voucher in the amount of €15 for their participation.

MATERIALS

THE INTERVIEW

All interviews were conducted by the second and third authors of this paper following an information-gathering style. Adapted from Duke and colleagues' (2018), the interviewer first introduced themselves, asked participants how they were doing, and began building rapport by describing the purpose of the interview and engaging in self-disclosure (i.e. "It will help us work together if we know something about each other. I'll begin by telling you a few things about myself . . .").

Interviewers self-disclosed their countries of origin, which was North America for Interviewer 1, and South America for Interviewer 2, as well as the amount of time they had been living in the Netherlands.

Interviewers then invited participants to share about themselves (i.e. "I was wondering if you could please tell me about yourself . . ."). Interviewers were instructed to ask two follow-up questions regarding the information the participants shared about themselves (e.g. "And how are you liking living in . . ."). See *Appendix A* for full script.

Next, interviewers moved on to ask questions related to the crime by first obtaining a free recall through open-ended questions (i.e. "Would you please start by telling me in as much detail as possible everything you witnessed?"), and then ask follow-up questions to narrow in on more specific topics (i.e. "Is there anything else you can tell me about the location of where the crime happened?").

To close the interview, interviewers thanked the participants for their time. Interviewer 1 conducted 70 interviews (53.4%) and Interviewer 2 conducted 61 interviews (46.6%).

In total, the interview script included six rapport tactics substantiated by the rapport literature (e.g. Abbe & Brandon, 2014; Gabbert et al., 2020; Kelly et al., 2013).

The three verbal tactics were: 1) calling the interviewee by first name, 2) engaging in self-disclosure (i.e. sharing where they were from and how long they had lived in the Netherlands), and 3) explaining the purpose of the interview.

The three non-verbal tactics were: 4) showing respect by shaking hands upon meeting and active listening by engaging in 5) eye contact and 6) providing affirmations such as nodding and "mhm".

The in-person script included all six verbal and non-verbal tactics, while the chat script only included the three verbal tactics.

RAPPORT SCALES FOR INVESTIGATIVE INTERVIEWS AND INTERROGATIONS

We measured participants' perceptions of rapport via the Rapport Scales for Investigative Interviews and Interrogations-Source version (RS3i-S) developed by Duke and colleagues (2018).

The RS3i-S is an 18-item self-report questionnaire that examines the extent to which an interviewee experiences rapport by measuring specific perceptions of the interviewer on five subscales.

That is, the interviewer's *attentiveness* (interviewee's perception that the interviewer was attentive and interested in what they had to say), *trustworthiness and respectfulness* (interviewee's perception that they were treated respectfully during the interview and that the

interviewer is trustworthy), *expertise* (interviewee's perception that the interviewer displayed professional competence and was professionally dedicated to the task of interviewing), *cultural similarity* (interviewee's perception that they are culturally similar to the interviewer), and *connected flow* (interviewee's perception that there was easy communication with the interviewer).

The sixth subscale of the RS3i, *commitment to communication*, does not measure rapport but the interviewee's motivation to provide information cooperatively. All ratings are on a 5-point Likert-type scale ranging from *strongly disagree* to *strongly agree*.

The RS3i-S is one of the few rapport-measuring scales available that has shown adequate internal and construct validity (Gabbert et al., 2020).

RAPPORT QUESTIONNAIRE

A questionnaire composed by the authors served to gauge whether participants were cognizant of the three verbal and three non-verbal rapport behaviours:

1. Calling the interviewee by first name
2. Engaging in self-disclosure
3. Explaining the purpose of the interview
4. Shaking hands upon meeting
5. Eye-contact
6. Active listening

Specifically, it probed if the interviewer engaged in the behaviours, thus serving as manipulation checks (i.e., "Did the interviewer engage in the following behaviours during the interview?").

Responses were gathered via *yes* or *no* answers. We also asked participants whether they considered each behaviour helpful for creating a relationship, or rapport, with the interviewer (i.e. "Was each behaviour helpful for creating a relationship with the interviewer?"). Their perceived helpfulness of each rapport tactic was

measured on a 3-point scale: *not necessary*, *somewhat necessary*, and *necessary*.

CODING OF STATEMENTS

To assess the quality of the interview, we coded for all units of information provided, which were divided into type of detail: central vs. peripheral.

Central crime details were defined as information essential to the crime (e.g. sequence of criminal events, description of the suspect's appearance, etc.).

For example, the statement: "he pulled a silver gun out of his pocket and pointed it at the other guy" contained four central details. Peripheral details were defined as information provided by the witnesses not directly related to the crime, such as descriptions of the location.

The statement: "[there was] a lot of trash and a bike. The buildings around me were relatively high," contained three peripheral details (for a similar coding strategy see Gregory et al., 2011).

If a detail was repeated during the interview, we only coded it once. To further assess quality, we coded for information accuracy by first evaluating participants' statements utilising a checklist containing 107 VR scenario details regarding the location of the crime, perpetrator, victim, attempted robbery, and shooting.

We categorised each detail provided as either accurate, incorrect, or confabulated based on whether it appeared in the scenario, differed from the scenario, or did not appear in the scenario, respectively.

We then calculated each participant's accuracy score following the procedure from Smeets et al. (2004); we divided the number of accurate details by the total amount of details (i.e. accurate + incorrect + confabulated).

MATERIALS

Rapport Building: Online Vs In-Person Interviews

For coding purposes, all in-person interviews were audio-recorded and transcribed verbatim, and the Skype transcripts were exported and saved.

Two research assistants were trained on coding and practiced using a subsample of the transcripts, discussing and resolving any discrepancies.

They then independently coded a random sample of 20% of the interviews, achieving acceptable inter-rater reliability calculated via two-way random single measures intraclass correlation coefficients (ICC) for central details, (ICC = 0.77, 95% CI [0.47, 0.91]), peripheral details (ICC = 0.84, 95% CI [0.69, 0.92]), correct (ICC = 0.91, 95% CI [0.75, 0.96]), incorrect (ICC = 0.81, 95% CI [0.63, 0.91]), and confabulated details (ICC = 0.93, 95% CI [0.86, 0.97]).

Each coder was randomly assigned 50% of the data to independently code for the final analyses.

RESULTS

Rapport Building: Online Vs In-Person Interviews

	B	SE	95% CI	t	p
Attentiveness ($F(2, 128) = 8.36, p < .001, R^2 = .116$)					
Interview medium	0.42	.011	[0.20, 0.63]	3.77	< .001
Interviewer	0.12	0.11	[-0.09, 0.34]	1.12	.267
Trust/Respect ($F(2, 128) = 2.93, p = .057, R^2 = .004$)					
Interview medium	0.23	0.10	[0.04, 0.43]	2.41	.018
Interviewer	-0.00	0.10	[-0.20, 0.19]	-0.03	.972
Expertise ($F(2, 128) = 8.93, p < .001, R^2 = .122$)					
Interview medium	0.50	0.12	[0.26, 0.75]	4.11	< .001
Interviewer	0.05	0.12	[-0.19, 0.30]	0.45	.652
Cultural Similarity ($F(2, 128) = 8.20, p < .001, R^2 = .114$)					
Interview medium	-0.10	0.15	[-0.38, 0.19]	-0.69	.491
Interviewer	-0.57	0.15	[-0.87, -0.28]	-3.88	< .001
Connected Flow ($F(2, 128) = 1.85, p = .161, R^2 = .028$)					
Interview medium	0.02	0.11	[-0.02, 0.43]	1.80	.073
Interviewer	0.05	0.11	[-0.18, 0.28]	0.44	.660
Commitment to Communication ($F(2, 128) = .101, p = .904, R^2 = .002$)					
Interview medium	-0.05	0.10	[-0.25, 0.16]	-0.45	.656
Interviewer	0.00	0.10	[-0.21, 0.21]	0.00	.998

Note: Factors were dummy coded as: Chat (0) and In-person (1); Interviewer 1 (0) and Interviewer 2 (1).

Table 2: Regression models for RS3i-S subscales

	B	SE	95% CI	t	p
Central details ($F(2, 128) = 1.64, p = .198, R^2 = .025$)					
Interview medium	3.83	2.16	[-0.43, 8.10]	1.78	.078
Interviewer	-1.18	2.14	[-5.43, 3.06]	-0.55	.582
Peripheral details ($F(2, 128) = 4.95, p = .008, R^2 = .072$)					
Interview medium	4.82	1.54	[1.78, 7.86]	3.14	.002
Interviewer	-0.98	1.53	[-4.01, 2.05]	-0.64	.524
Correct details ($F(2, 128) = 0.25, p = .776, R^2 = .004$)					
Interview medium	0.86	1.39	[-1.88, 3.60]	0.62	.537
Interviewer	-0.59	1.38	[-3.32, 2.14]	-0.43	.670
Incorrect details ($F(2, 128) = 4.39, p = .014, R^2 = .064$)					
Interview medium	3.79	0.42	[0.37, 2.05]	2.85	.005
Interviewer	-0.49	0.42	[-1.33, 0.35]	-1.15	.252
Confabulated details ($F(2, 128) = 1.31, p = .273, R^2 = .020$)					
Interview medium	-0.21	0.15	[-0.51, 0.08]	-1.42	.157
Interviewer	-0.09	0.15	[-0.38, 0.21]	-0.60	.553
Accuracy ($F(2, 128) = 1.91, p = .153, R^2 = .029$)					
Interview medium	-0.03	0.01	[-0.53, 0.00]	-1.85	.067
Interviewer	0.01	0.01	[-0.15, 0.39]	0.86	.391

Note: Factors were dummy coded as: Chat (0) and In-person (1); Interviewer 1 (0) and Interviewer 2 (1).

Table 3: Regression models of disclosure measures

RESULTS

Rapport Building: Online Vs In-Person Interviews

	Verbal			Non-verbal		
	Self-disclosure	Explained purpose	Used first name	Affirmations	Shook hand	Eye-contact
Online (N = 73)						
Present (yes)	94.5	78.1	89.0	--	--	--
Necessary	34.2	86.3	49.3	--	--	--
Somewhat necessary	45.2	11.0	42.5	--	--	--
Not necessary	20.5	2.7	8.2	--	--	--
In person (N = 58)						
Present (yes)	100	87.9	94.8	96.6	98.3	98.3
Necessary	44.8	81.0	53.4	93.1	63.8	91.4
Somewhat necessary	32.8	13.8	39.7	6.9	32.8	6.9
Not necessary	22.4	5.2	6.9	0	3.4	1.7

Table 4: Percentage of interviewees' perceptions of rapport tactics

RESULTS

INTERVIEWEES' PERCEPTIONS OF RAPPORT

Descriptive and correlation statistics are presented in *Table 1*. To test the effect of interview medium on perceptions of rapport, we conducted a series of linear regressions with interview medium as predictor for each of the five RS3i-S rapport subscales. Interviewer was also added as a covariate in the models to control for possible interviewer effects.

Analyses revealed interview medium to significantly predict three of the five rapport subscales, such that participants in the in-person condition rated the rapport higher on *attentiveness*, *trust/respect* and *expertise* than those in the online condition. Moreover, we found interviewer to be a significant predictor for the *cultural similarity* subscale, so that participants identified more culturally with Interviewer 1, who was from North America, than Interviewer 2, who was from South America (see *Table 2*).

INFORMATION DISCLOSURE

We conducted another set of linear regressions to examine the number of central, peripheral, correct, incorrect, and confabulated details provided, again with interview medium as predictor and interviewer added as covariate in the models. (See *Table 3*). We found interview medium to be a significant predictor for peripheral details only so that participants in the in-person condition provided more peripheral details than those in the online condition. We also found that participants interviewed in person provided a higher number of incorrect details. Overall statement accuracy was not affected by interview medium.

PERCEPTIONS OF RAPPORT BEHAVIOURS

Frequencies are displayed in *Table 4*. As a manipulation check, we asked participants to report whether the interviewer engaged in each of the three verbal and three non-verbal rapport behaviours (yes or no). We found that the large majority of participants appeared to be cognizant of the presence of these behaviours (78.1% to 100%).

We also asked participants whether they believed each of the rapport behaviours to be *necessary*, *somewhat necessary*, or *not necessary* to create a relationship with the interviewer. Of the verbal rapport tactics, participants in the online and in-person conditions regarded explaining the purpose of the interview as the most necessary. Ratings for interviewers' self-disclosure were the most diverse. Of the non-verbal tactics, active listening through affirmations as well as engaging in eye-contact were regarded by a majority of the in-person participants as necessary.

EXPLORATORY ANALYSES

Participants' perceived *cultural similarity* with the interviewer was significantly and positively associated with the number of central and correct details they provided ($r = .19$ and $r = .25$ respectively, see *Table 1*). To test whether cultural similarity acted as a mediator, we conducted two mediation analyses using the PROCESS macro for IBM SPSS version 21 (Preacher and Hayes, 2008). PROCESS uses a robust nonparametric resampling procedure with $n=5000$ bootstrap resamples to derive 95% confidence intervals and a point estimate for an indirect path. A statistically significant indirect path is indicated by 95% confidence intervals that do not include zero.

RESULTS

Rapport Building: Online Vs In-Person Interviews

In the first analysis, interviewer was added as predictor, *cultural similarity* as mediator and central details as outcome. Ignoring the mediator, this model was not significant ($b = 0.95$, $t(128) = 0.42$, $p = .674$, 95% CI [-3.59, 5.38]). However, the model including *cultural similarity* as mediator was significant ($b = -1.66$, 95% CI [-4.27, -.22]), consistent with a full mediation.

We ran the same analysis but with correct details as outcome, and again, results were consistent with a full mediation. The regression model ignoring *cultural similarity* as mediator was not significant ($b = 0.88$, $t(128) = 0.63$, $p = .530$, 95% CI [-1.90, 3.67]), whereas the model including *cultural similarity* as a mediator was ($b = -1.37$, 95% CI [-3.02, -.38]).

DISCUSSION

The current study examined whether mock witnesses perceive rapport differently when interviewed via two different mediums: in-person or online chat. We found that witnesses perceived rapport more positively across three of the five RS3i-S subscales – namely *attentiveness*, *trust and respect*, and *expertise* – when interviewed in-person compared to over chat. The other two subscales, *cultural similarity* and *connected flow*, were not perceived differently across interview mediums.

Our findings indicate that in witness interviews, non-verbal behaviours are instrumental for the quality of rapport. This fits with Tickle-Degnen and Rosenthal (1990), for example, who reasoned that non-verbal behaviours are key elements in the development of feelings of rapport between communicators, with some specific behaviours correlating with core aspects of rapport, such as leaning forward to signal attentiveness and smiling to signal positivity.

The lower rapport ratings across the three RS3i-S subscales that focus on the interviewers' communication skills and competence also suggest that there could have been detrimental effects of anonymity, resembling Sztompka's (1999) concerns

about the importance of non-verbal behaviour to gain trust. Excluding non-verbal behaviour potentially causes hesitation or even distrust in assessing the interviewer as a professional.

Two RS3i-S subscales, *cultural similarity* and *connected flow* were not perceived differently across interview medium. Unlike the other subscales, these two focus more on the interviewer-interviewee dynamic. Relevant for the use of chat in witness interviews is the lack of difference in the *connected flow* subscale, which measures interviewees' perceived ease of communication with the interviewer (e.g. "The Investigator and I worked well together as a team"). Connectedness is an aspect that can be easily lost during online and visually anonymous interactions (Slagter van Tryon & Bishop, 2012).

Considering that the purpose of rapport is to facilitate the communication between interviewers and interviewees, it is relevant that participants in the chat condition felt as connected to the interviewer as those in person.

Even though our results showed that chat interviews may be less appropriate for building rapport in terms of demonstrating *attentiveness*, *trust and respect*, and *expertise*, this did not result in the reporting of less crime-related details and lower overall statement accuracy. Notably, we did find that participants interviewed in-person provided a greater number of peripheral details in comparison to those interviewed via chat. This finding fits with the notion that online environments promote more focused, direct interactions (Braeutigam, 2006). However, participants interviewed in-person also provided more incorrect details.

This observation can be interpreted in light of the social expectancies of in-person interactions (Taylor & Dando, 2018). Participants interviewed in-person may have felt more pressured to provide information when prompted with follow-up questions post free recall (i.e. "Is there anything else you can tell me

about...”), thus providing peripheral details they were less confident about. These findings are consistent with Taylor and Dando’s (2018) study, in which participants interviewed avatar-to-avatar not only outperformed those that interviewed in-person in terms of accuracy during follow-up questions, but they also found it easier to say when they did not know the answer.

Practically, our findings that chat and in-person interviews yielded a similar amount of crime-related details and accuracy do not bode against the use of chat interviews. If, however, witnesses are to be interviewed via chat, interviewers must actively consider how to compensate for the lack of non-verbal tactics and visual cues. In healthcare settings, for example, clinicians are recommended to use punctuation marks (e.g. ‘!’) to convey positivism and to acknowledge silences to encourage coordination when interacting with clients via chat (Nagel & Anthony, 2011), though it remains to be established which behaviours are appropriate to compensate for the lack of non-verbal rapport behaviours specific to witness interviews.

This recommendation is important when dealing with witnesses who are in a heightened emotional state, for example. In such cases, effective rapport is vital to appease witnesses, and the less positive perceptions of online rapport may become counterproductive. In our study, that the less positive perceptions of rapport in the chat interviews were not detrimental to the quality of the information provided could have been due to the experimental nature of our study. It is imperative for future research to examine the effectiveness and, most importantly, the appropriateness of chat interviews when dealing with witnesses who may be in a heightened emotional state.

This study was not without limitations. First, with regards to ecological validity, participants in our study engaged in a VR mock-crime scenario and were immediately interviewed afterwards. This is unlike most actual interviews in which there is a delay between the witnessed event and the interview, during which witnesses may be exposed

to misinformation and memory decay. A second limitation of this study concerns its generalisability. We tested university students who, as a demographic, are generally comfortable with technology and the use of chat to communicate and stay connected with others (Vrocharidou & Efthymiou, 2012). It is possible that had we tested different age groups, such as older adults, we would have found differences in the *connected flow* scale for example, or in the quality of their statements.

However, there is evidence showing that older adults are becoming increasingly more comfortable with online written communication (e.g. Selwyn et al., 2003). Nonetheless, this would be an important next step for future research to address to determine the efficacy of conducting witness interviews via chat.

An interesting avenue for future research is to explore the effectiveness of chat interviews for witnesses whose cooperation depends on their anonymity. Visual anonymity in online communication has shown to promote self-disclosure when stakes are high, meaning when participants were asked questions regarding stigmatising or personal information (Blau & Barak, 2012; Joinson 2001; Yokotani et al., 2018).

For example, Joinson (2001) found that participants in computer-mediated discussions disclosed significantly more personal information compared to those in in-person discussions, particularly when they communicated via text only. In our study, however, participants were simulated crime witnesses who did not have anything to lose by being forthcoming. Thus, a paradigm that raises the personal stakes of the witnesses may help determine the extent to which anonymity via chat interviews benefits cooperation and disclosure.

Future research should also examine rapport-building in cross-cultural interviews. Exploratory findings indicate that participants rated the *cultural similarity* between themselves and the North American interviewer higher than between themselves and the South American interviewer. This result is not surprising given that

RESULTS

Rapport Building: Online Vs In-Person Interviews

majority of participants were from Western European countries, and therefore more culturally similar to North Americans. Moreover, our exploratory analysis showed that participants who perceived higher rapport with the investigator in terms of *cultural similarity* also provided more central and correct details, suggesting a benefit of cultural affiliation. There is emerging evidence demonstrating that cultural background plays a key role in how interviewees communicate and build relationships with interviewers (Beune et al., 2010; Huang & Teoh, 2019; Wachi et al., 2014).

In cross-cultural interviews (where interviewees and investigators are from different backgrounds), building rapport can be challenging due to varying cultural norms related to verbal and non-verbal communication (Abbe & Brandon, 2014). For example, individuals from high-context cultures (typically from non-Western countries) value indirect, relationship-oriented, and non-verbal communication more than individuals from low-context culture, in which communication is more direct and message-oriented (Adair et al., 2016).

This distinction between high- and low-context cultures can have implications for online investigative interviews as well. Through in-person interactions, for example, individuals use their physical appearance and presence to convey professionalism and/or formality (e.g. through clothing), as well as friendliness (e.g. handshakes and smiling) and attentiveness (e.g. by engaging in eye contact; Braeutigam, 2006). Such cues not being present in online interactions may be less compatible for individuals from high-context cultures who place greater value on non-verbal behaviours (Adair et al., 2009; Hall, 1976). Future studies could further examine how chat and in-person rapport-building differs with individuals from varying cultural backgrounds.

Collectively, we found that in-person witness interviews yielded better rapport ratings than interviews via chat but were equally productive in terms of the quality of information obtained. When using chat interviews, investigators must carefully consider how

to compensate for the lack of those non-verbal rapport tactics that influence *attentiveness, trust and respect*, as well as the *expertise* of investigators. Continuing our understanding of online rapport-building will help inform best witness-interviewing practices in an increasingly digitised society.

WHERE NEXT?

We believe that, based on our empirical findings, three themes deserve additional attention. First, we think the topic of visual anonymity in witness interviews should be explored further. In our study, we found that rapport subscales *trust/respect* and *expertise* were rated higher in face-to-face interviews compared to chat interviews.

This suggests that the lack of non-verbal rapport and visual cues negatively influenced participants' perceptions of the interviewers' trustworthiness and professionalism. This would mean that anonymity hinders rapport-building, and our recommendation is, considering how vital trust and expertise are in actual interviews, for research to explore how interviewers can compensate for the lack of visual cues if conducting interviews via chat.

However, we also believe that future research should explore situations in which visual anonymity may be an advantage for witnesses, particularly for those whose cooperation depends on being anonymous. Chat interviews for such cases may be preferable, and such a research line would be of tremendous practical importance.

Secondly, the use of chat interviews for collecting quality witness statements deserves further attention. We did not find a difference between chat and face-to-face interviews in the number of crime-related details participants provided, nor in the accuracy of the statements. We did find face-to-face interviews to yield more incorrect details.

This suggests that there may be social and contextual (i.e. the medium of communication) expectations related to interviewing face-to-face such that witnesses may feel compelled to talk more (e.g. filling in silences) and consequently provide information that they are less confident about. It is important to note that incorrect details in actual investigative interviews, however

minor, provided by a witness will have implications as it may lead investigators to unnecessarily spend resources following up on erroneous information.

Future research should probe further into clarifying the influence of social and contextual expectations in face-to-face interviews, and the utility of chat, and other remote mediums, to attenuate any expectation effects.

Finally, our exploratory findings revealed that our predominantly western European sample rated the *cultural similarity* between themselves and the North American interviewer higher than between themselves and the South American interviewer.

Moreover, higher ratings of *cultural similarity* were associated with more central and correct details provided, suggesting a benefit of cultural affiliation.

Future research could explore the cross-cultural aspects of rapport. When they do, they should not only concentrate on the cultural grouping of participants but should also focus on the interaction with the culture of the interviewer.

READ MORE

Abbe, A., & Brandon, S. E. (2013). The role of rapport in investigative interviewing: A review. *Journal of Investigative Psychology and Offender Profiling*, 10(3), 237–249. <https://doi.org/10.1002/jip.1386>

Abbe, A., & Brandon, S. E. (2014). Building and maintaining rapport in investigative interviews. *Police Practice and Research: An International Journal*, 15(3), 207–220. <https://doi.org/10.1080/15614263.2013.827835>

Adair, W. L., N. Buchan, and X. P. Chen. (2009). *Communication and Social Interaction Style (CSIS): Reconceptualization and scale development* [paper presentation]. Paper presented at the Association for International Business conference, San Diego, CA, United States.

Adair, W. L., Buchan, N. R., Chen, X. P., & Liu, D. (2016). A model of communication context and measure of context dependence. *Academy of Management Discoveries*, 2(2), 198–217. <https://doi.org/10.5465/amd.2014.0018>

Almerigogna, J., Ost, J., Akehurst, L., & Fluck, M. (2008). How interviewers' nonverbal behaviors can affect children's perceptions and suggestibility. *Journal of Experimental Child Psychology*, 100(1), 17–39. <https://doi.org/10.1016/j.jecp.2008.01.006>

Beune, K., Giebels, E., & Taylor, P. J. (2010). Patterns of interaction in police interviews: The role of cultural dependency. *Criminal Justice and Behavior*, 37(8), 904–925. <https://doi.org/10.1177/0093854810369623>

Blau, I., & Barak, A. (2012). How do personality, synchronous media, and discussion topic affect participation? *Educational Technology & Society*, 15(2), 12–24. <https://www.jstor.org/stable/10.2307/jeductechsoci.15.2.12>

Braeutigam, A. M. (2006). What I hear you writing is... issues in ODR: building trust and rapport in the text-based environment. *University of Toledo Law Review*, 38(1), 101–124

Brimbal, L., Kleinman, S. M., Oleszkiewicz, S., & Meissner, C. A. (2019). Developing rapport and trust in the interrogative context: An empirically supported and ethical alternative to customary interrogation practices. In S. J. Barela, M. J. Fallon,

G. Gaggioli, & J. D. Ohlin (Eds.), *Interrogation and torture: Integrating efficacy with law and morality*. Oxford University Press. <https://doi.org/10.1093/oso/9780190097523.003.0006>

Clarke, C., & Milne, R. (2001). *A national evaluation of the PEACE Investigative Interviewing Course* (p. 187). London: Home Office

Collins, R., Lincoln, R., & Frank, M. G. (2002). The effect of rapport in forensic interviewing. *Psychiatry, Psychology and Law*, 9(1), 69–78 <https://doi.org/10.1375/pplt.2002.9.1.69>

De La Fuente Vilar, A., Horselenberg, R., Strömwall, L. A., Landström, S., Hope, L., & Koppen, P. J. (2020). Effects of cooperation on information disclosure in mock witness interviews. *Legal and Criminological Psychology*, 25(2), 133–149. <https://doi.org/10.1111/lcrp.12167>

Duke, M. C., Wood, J. M., Bollin, B., Scullin, M., & LaBianca, J. (2018). Development of the Rapport Scales for Investigative Interviews and Interrogations (RS3i), Interviewee Version. *Psychology, Public Policy, and Law*, 24(1), 64–79. <https://doi.org/10.1037/law0000147>

- Ekberg, S., Barnes, R., Kessler, D., Malpass, A., & Shaw, A. (2013). Managing the therapeutic relationship in online cognitive behavioural therapy for depression: Therapists' treatment of clients' contributions. *Language@ Internet*, 10. <https://eprints.qut.edu.au/59061/>
- Fisher, R. P. (1995). Interviewing victims and witnesses of crime. *Psychology, Public Policy, and Law*, 1(4), 732–764. <https://doi.org/10.1037/1076-8971.1.4.732>
- Fisher, R. P., & Geiselman, R. E. (1992). *Memory enhancing techniques for investigative interviewing: The cognitive interview*. Charles C Thomas, Publisher.
- Fenichel, M., Suler, J., Barak, A., Zelvin, E., Jones, G., Munro, K., Meunier, V., & Walker-Schmucker, W. (2002). Myths and realities of online clinical work. *Cyber Psychology & Behavior*, 5(5), 481–497. <https://doi.org/10.1089/109493102761022904>
- Gabbert, F., Hope, L., Luther, K., Wright, G., Ng, M., & Oxburgh, G. (2020). Exploring the use of rapport in professional information gathering contexts by systematically mapping the evidence base. *Applied Cognitive Psychology*. Advance online publication. <https://doi.org/10.1002/acp.3762>
- Geiselman, E., Fisher, R. P., Firstenberg, I., Hutton, L. A., Sullivan, S. J., Avetissian, I. V., & Prosk, A. L. (1984). Enhancement of eyewitness memory: An empirical evaluation of the cognitive interview. *Journal of Police Science & Administration*, 12(1), 74–80
- Gregory, A. H., Schreiber Compo, N., Vertefeuille, L., & Zambruski, G. (2011). A comparison of US police interviewers' notes with their subsequent reports. *Journal of Investigative Psychology and Offender Profiling*, 8(2), 203–215. <https://doi.org/10.1002/jip.139>
- Hall, E. T. 1976. *Beyond Culture*. Anchor, Garden City, NY
- Hamilton, G., Whiting, E. A., Brubacher, S. P., & Powell, M. B. (2017). The effects of face to face versus live video feed interviewing on children's event reports. *Legal and Criminological Psychology*, 22(2), 260–273. <https://doi.org/10.1111/lcrp.12098>
- Henderson, S., & Gilding, M. (2004). 'I've never clicked this much with anyone in my life': Trust and hyperpersonal communication in online friendships. *New Media & Society*, 6(4), 487–506. <https://doi.org/10.1177/146144804044331>
- Hoogesteyn, K., Meijer, E., & Vrij, A. (2019). The influence of room spaciousness on investigative interviews. *Legal and Criminological Psychology*, 24(2), 215–228. <https://doi.org/10.1111/lcrp.12156>
- Huang, K.-J., & Teoh, Y.-S. (2019). Rapport building in suspect interviewing: A comparison of relationship- and procedure-based approaches in a laboratory setting. *Psychology, Public Policy, and Law*, 25(4), 253–265. <https://doi.org/10.1037/law0000209>
- Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31(2), 177–192. <https://doi.org/10.1002/ejsp.36>
- Kelly, C. E., Miller, J. C., Redlich, A. D., & Kleinman, S. M. (2013). A taxonomy of interrogation methods. *Psychology, Public Policy, and Law*, 19(2), 165–178. <https://doi.org/10.1037/a0030310>
- Kieckhaefer, J. M., Vallano, J. P., & Schreiber Compo, N. (2014). Examining the positive effects of rapport building: When and why does rapport building benefit adult eyewitness memory? *Memory*, 22(8), 1010–1023. <https://doi.org/10.1080/09658211.2013.864313>

READ MORE

Rapport Building: Online Vs In-Person Interviews

King, R., Bambling, M., Reid, W., & Thomas, I. (2006). Telephone and online counselling for young people: A naturalistic comparison of session outcome, session impact and therapeutic alliance. *Counselling and Psychotherapy Research*, 6(3), 175–181. <https://doi.org/10.1080/14733140600874084>

Leander, L., Granhag, P. A., & Christianson, S. Å. (2009). Children's reports of verbal sexual abuse: Effects of police officers' interviewing style. *Psychiatry, Psychology and Law*, 16(3), 340–354. <https://doi.org/10.1080/13218710902930226>

Lopez, A., Schwenk, S., Schneck, C. D., Griffin, R. J., & Mishkind, M. C. (2019). Technology-based mental health treatment and the impact on the therapeutic alliance. *Current Psychiatry Reports*, 21, Article 76. <https://doi.org/10.1007/s11920-019-1055-7>

Nagel, D. M., & Anthony, K. (2011). Text-based online counseling: Chat. In R. Kraus, G. Stricker, & C. Speyer (Eds.), *Online counseling: A handbook for mental health professionals* (2nd ed., pp. 169–182). Academic Press. <https://doi.org/10.1016/B978-0-12-378596-1.00009-5>

Nash, R. A., Houston, K. A., Ryan, K., & Woodger, N. (2014). Remembering remotely: would video-mediation impair witnesses' memory reports? *Psychology, Crime & Law*, 20(8), 756–768. <https://doi.org/10.1080/1068316X.2013.857669>

Richards, P., Simpson, S., Bastiampillai, T., Pietrabissa, G., Castelnuovo, G. (2018). The impact of technology on therapeutic alliance and engagement in psychotherapy: The therapist's perspective. *Clinical Psychologist*, 22(2), 171–81. <https://doi.org/10.1111/cp.12102>

Selwyn, N., Gorard, S., Furlong, J., & Madden, L. (2003). Older adults' use of information and communications technology in everyday life. *Ageing & Society*, 23(5), 561–582. <https://doi.org/10.1017/S0144686X03001302>

Skinner, A. E., & Latchford, G. (2006). Attitudes to counselling via the Internet: A comparison between in-person counselling clients and Internet support group users. *Counselling and Psychotherapy Research*, 6(3), 158–163. <https://doi.org/10.1080/14733140600853641>

Slagter van Tryon, P. J., & Bishop, M. J. (2012). Evaluating social connectedness online: The design and development of the Social Perceptions in Learning Contexts Instrument. *Distance Education*, 33(3), 347–364. <https://doi.org/10.1080/01587919.2012.723168>

Smeets, T., Candel, I., & Merckelbach, H. (2004). Accuracy, completeness, and consistency of emotional memories. *The American Journal of Psychology*, 117(4), 595–609. <https://doi.org/10.2307/4148994>

Sztompka, P. (1999). *Trust: A sociological theory*. Cambridge University Press.

Taylor, D. A., & Dando, C. J. (2018). Eyewitness memory in face-to-face and immersive avatar-to-avatar contexts. *Frontiers in Psychology*, 9, Article 507. <https://doi.org/10.3389/fpsyg.2018.00507>

Tickle-Degnen, L., & Rosenthal, R. (1990). The nature of rapport and its nonverbal correlates. *Psychological Inquiry*, 1(4), 285–293. https://doi.org/10.1207/s15327965pli0104_1

Vallano, J. P., Evans, J. R., Schreiber Compo, N., & Kieckhafer, J. M. (2015). Rapport- building during witness and suspect interviews: A survey of law enforcement. *Applied Cognitive Psychology*, 29(3), 369–380. <https://doi.org/10.1002/acp.3115>

Vrocharidou, A., & Efthymiou, I. (2012). Computer mediated communication for social and academic purposes: Profiles of use and university students' gratifications. *Computers & Education*, 58(1), 609–616. <https://doi.org/10.1016/j.compedu.2011.09.015>

Wachi, T., Watanabe, K., Yokota, K., Otsuka, Y., Kuraishi, H., & Lamb, M. (2014). Police interviewing styles and confessions in Japan. *Psychology, Crime & Law*, 20(7), 673–694. <https://doi.org/10.1080/1068316X.2013.854791>

Yokotani, K., Takagi, G., & Wakashima, K. (2018). Advantages of virtual agents over clinical psychologists during comprehensive mental health interviews using a mixed methods design. *Computers in Human Behavior*, 85, 135–145. <https://doi.org/10.1016/j.chb.2018.03.045>

APPENDIX A: INTERVIEW SCRIPT

1. INTRODUCTION AND RAPPORT

Investigator: Hello, my name is _____. [Shake witness' hand as you enter the room]. What's your name? [witness name] it is very nice to meet you, how is your day going so far?

Investigator: So [witness name], I am the lead investigator assigned to this case. I was informed that a shooting has happened, and that you are a key witness. I would like to ask you questions about the crime. I do want you to know though that if you do not know the answer to a question, it is perfectly fine to say that you do not know or don't remember.

[Show interest by maintaining eye contact].

Investigator: "It will help us work together if we know something about each other. I'll begin by telling you a few things about myself ..."

I am from _____

I have lived in Maastricht for ___ years

Investigator: "I was wondering if you could please tell me about yourself ..."

Listen carefully [nodding along]. Show you are interested in the witness and what he or she says by asking 2 follow up questions.

Examples: Oh! I have been wanting to visit _____

Sounds nice, I was wondering about _____

2. OPEN-ENDED QUESTIONS

Investigator: "Okay, [witness' name] I'd like to ask you about the shooting. Would you please start by telling me in as much detail as possible everything you witnessed?"

[Do not interrupt]

After witness stops, you should say "Thanks for sharing that with me, [witness' name], it is helpful. Is there anything else you remember?"

3. CLOSED-ENDED QUESTIONS

Investigator: “Okay, I have some more questions”

“Is there anything else you can tell me about the location of where the crime happened?”

Follow up: “Is there anything else you remember about the location?”

Investigator: “Is there anything else you can tell me about the reason for the dispute?”

Follow up: “Is there anything else you remember about that?”

Investigator: “Is there anything else you can tell me about the victim”

Follow up: “Is there anything else you remember about the victim?”

Investigator: “Is there anything else you can tell me about the perpetrator?”

Follow up: “Is there anything else you remember about the perpetrator?”

Investigator: Thank you for sharing [witness’ name], that is helpful.

Investigator: “I understand the perpetrator was your friend, can you tell me more about that”

Follow up: “Is there anything else you can tell me about that?”

4. CLOSING

Investigator: “Is there anything else you want to add to your statement?”

Investigator: “Thank you for the information, [witness’ name]. This concludes the interview. Please wait here for the experimenter. I wish you success in your studies. [Shake witness’ hand as you leave].

For more information on CREST
and other CREST resources, visit
www.crestresearch.ac.uk



CREST

CENTRE FOR RESEARCH AND
EVIDENCE ON SECURITY THREATS