The Efficacy of Rapport-Based Techniques for Minimizing Counter-Interrogation Tactics Amongst a Field Sample of Terrorists

Laurence Alison, Emily Alison, Geraldine Noone, Stamatis Elntib, Sara Waring, and Paul Christiansen
University of Liverpool

The impact of rapport-based interview techniques on suspect use of counter-interrogation tactics (CITs) was examined in an operational field sample of 181 police interrogations with international (Al-Qaeda and Al-Qaeda-inspired), paramilitary, and right-wing terrorists. The observing rapport-based interpersonal techniques (ORBIT) framework was used to code rapport-based interrogator skills along 2 dimensions: motivational interviewing skills and interpersonal competence (use of adaptive interviewing behaviors and absence of maladaptive interviewing behaviors). Two components of suspect behavior were measured using the ORBIT tool: interpersonal behavior and counter-interrogation techniques (passive, verbal, passive verbal, no-comment, and retraction). Structural equation modeling revealed that adaptive interviewing was directly associated with decreases in passive CITs but, counter to expectations, increased the prevalence of passive verbal responding. Interrogator use of motivational-interviewing-consistent skills was directly associated with improved adaptive interviewing; reduced maladaptive interviewing; and decreases in passive, verbal, and no-comment CITs, but was associated with higher rates of retraction. Motivational interviewing skills also had a significant indirect effect on reducing passive and increasing passive verbal CITs through its indirect effect on adaptive interviewing. Overall, findings indicate that adopting an adaptive rapport-based interrogation style in which suspects are treated with respect, dignity, and integrity is an effective approach for reducing suspects' use of CITs.

Keywords: suspect interviewing, rapport, motivational interviewing, interpersonal behavioral circumplex, counter-interrogation tactics

Considerable debate exists within investigative, security, and defense settings regarding the political, legal, and ethical use of coercion, threats, and torture when dealing with terrorist suspects (Soufan, 2011). Some parties continue to justify their use on the grounds of minimizing future terror threats despite them being in breach of human rights. The use of such tactics has had many political ramifications, as most recently demonstrated by the U.K. government's failure to extradite Abu Qatada in 2012, due to questions being raised over the reliability of evidence obtained from using torture. Research also demonstrates that while coercive tactics are not the most effective for encouraging suspects to generate information (Fisher, Brennan, & McCauley, 2002), rapport-based interviewing techniques have been found to possess

greater efficacy (Ord, Shaw, & Green, 2008). However, despite the legal and ethical ramifications, there still remains a lack of empirical research measuring the use of rapport-based techniques in operational settings. Accordingly, this study examines the impact of rapport-based techniques on suspect behaviors, specifically their use of counter-interrogation tactics (CITs), using a sample of 181 police interrogations conducted with 49 convicted international (Al-Qaeda and Al-Qaeda-inspired terrorists such as franchise groups and loan wolves), paramilitary, and right-wing terrorists.

Counter-Interrogation Tactics

Within police interviews, terrorist suspects make use of various deliberate strategies to resist cooperating with and providing information or intelligence to police or military personnel, which are referred to as CITs (Alison, Alison, Eltnib, Noone, & Cole, 2014). Indeed, both Al-Qaeda and the Provisional Irish Republican Army have produced manuals (the *Seventeenth Rule* and the *Green Book*, respectively) that instruct their members to make use of the tactic of staying silent during interviews to avoid providing any information. Reducing the use of CITs presents a major challenge for police interrogators if they are to encourage suspects to provide information.

One rare study into the use of CITs by terrorist suspects has identified a set of nine tactics commonly used during the interview (Alison et al., 2014). These tactics were consolidated into the following five clusters: passive (refusing to look at interviewers, remaining silent), passive verbal (monosyllabic response, claiming lack of memory), verbal (discussing an unrelated topic, providing well known information, providing a scripted response), retraction

of previous statements, and no-comment. These findings highlight both the CITs that are prevalent across terrorist suspects and the underlying similarities in the use of particular tactics. Such information may be beneficial for improving police interview training by allowing interrogators to prepare for the types of tactics they are likely to encounter during interviews with terrorist suspects. We build on these previous findings by identifying which interviewing techniques are most effective for reducing each of the five clusters of CITs.

The Observing Rapport-Based Interpersonal Techniques Tool

Within U.K. policing, the introduction of legislative and procedural developments, including the Police and Criminal Evidence Act in 1984 and the PEACE model of interviewing in 1991, has led to increased scrutiny of police conduct (Gudjonsson, 2006). The reliability of confessions obtained using oppressive techniques is questionable making such confessions inadmissible in U.K. courts (Gudjonsson, 2006). In addition to possessing greater efficacy over coercive tactics (Ord et al., 2008), the use of rapport-based techniques does not pose ethical issues (Ord et al., 2008). However, few studies have focused on rapport-based strategies in interviewing (Bull & Milne, 2004; Ord et al., 2008), and of these few studies most have tended to adopt a micro-level approach based on generating interview task lists that do not acknowledge the wider context of interactions (Thoresen, Lønnum, Melinder, Stridbeck, & Magnussen, 2006; Vallano & Compo, 2011). Accordingly, the presence and frequency of these behaviors is measured in isolation against a specific list of predefined behaviors.

In contrast, Alison, Alison, Noone, Eltnib, and Christiansen (2013) have recently developed a coding framework that is able to reliably and efficiently measure rapport at a macro level that focuses on the global atmosphere of communication. The observing rapport-based interpersonal techniques (ORBIT) tool consists of two independent measures: one based on motivational interviewing (MI) skills (Miller & Rollnick, 1992) and the other on the interpersonal behavior circle (IBC; Leary, 1955). It has achieved a high level of interrater reliability and has successfully been used to measure interactions between police interrogators and terrorist suspects and the amount of useful information (yield) generated (Alison et al., 2013). Accordingly, we utilize the ORBIT tool to examine the efficacy of rapport-based strategies for reducing CITs. Findings may be particularly relevant to preinterview planning, assignment, and training. Although used to code interactions between police and recalcitrant suspects, the development of ORBIT was heavily influenced by research from clinical, health and therapeutic fields (Birtchnell, 2002; Miller & Rollnick, 2002). It therefore has the potential for wider applications outside of forensic settings to other contexts where communication processes are strained, such as clinical, organizational, and family therapy settings.

Motivational Interviewing

MI derives from the therapeutic community and is defined as "a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence" (Rollnick & Miller, 1995, p. 325). With over 200 clinical trials, a series of efficacy reviews and meta-analyses published to date, MI has demonstrated its usefulness on a wide range of problems in health care and therapeutic communities (Erickson, Gerstle, & Feldstein, 2005; Rubak, Sandbaek, Lauritzen, & Christensen, 2005) along with broader applications in behavior change (Miller & Rollnick, 2002) and psychological services (Arkowitz, Westra, Miller, & Rollnick, 2008).

Although at first glance, the contexts of therapeutic treatment and interrogation may appear to have little in common, Alison et al. (2013) highlight several parallels. Given that police use of coercive tactics within the U.K. is no longer permitted, there has been a move toward more ethical interviewing styles that draw parallels with therapeutic treatment. For example, both MI and ethical police interviewing strategies involve accepting that the client/suspect has a free choice over the extent to which they participate or cooperate, only creating internal pressure through highlighting inconsistencies in beliefs, adopting a nonaccusatorial approach, and being goal-directed (Alison et al., 2014). Research also highlights that skillful police interviews contain many of the same qualities as MI including empathy, positive communication skills, open-mindedness, flexibility, open questions, structure (Bull & Cherryman, 1996), and being respectful and humane (Shepherd, 1991). The MI literature particularly emphasizes the importance of open questions, being nonjudgmental, displaying empathy, and being goal-directed (Rollnick & Miller, 1995). Therefore, many of the skills used in therapeutic treatments are consistent with structured and ethical police interview approaches (Soukara, Bull, Vrij, Turner, & Cherryman, 2009).

Interpersonal Behavioral Circle

According to the IBC model, therapists should be interpersonally versatile and able to adopt a range of adaptive interpersonal competencies dependent on the interaction style of the client (Birtchnell, 2002). The model is based on Leary and Coffey's (1954) argument that personality should be considered in the context of how people relate to one another rather than in isolation. The IBC consists of a set of interpersonal terms in a circular configuration with two main axes (Leary, 1955). The horizontal axis contains extremes for love and hate, while the vertical axis contains extremes for dominance and submission; additional terms were added to demonstrate their relative alignment with these extremes. Terms that were adjacent to one another on the periphery of the circle were highly positively correlated (e.g., "gregarious" and "self-assured"), and terms opposite one another were highly negatively correlated (e.g., "arrogant" vs. "unassuming"). Each behavior has an equal relationship to cooperation and hostility, but is diametrically opposed to submission (e.g., behaving in a submissive manner is opposite of behaving in a dominant manner). According to Carson (1969), the principle of complementarity is relevant to the dominance–submission axis (dominance induces submission, and vice versa). Conversely, the principle of correspondence is related to the love–hate axis (love induces love, and hate induces hate). Behavior can therefore be described in terms of its nature (dominant, submissive, hostile, and cooperative) or in terms of the response it is likely to elicit from the other individual involved in the interaction (reciprocal or complementary).

Although research demonstrates that the IBC is effective for examining interpersonal relating (for a review see Hatcher &

Rogers, 2009), studies that examine the use of the IBC in interviewing are limited and have tended to focus on solitary traits, such as argumentativeness (Rancer, 1998), rather than how these sit within the larger framework of communication. Birtchnell (2002) also argues that the model should be conceptualized as a full spectrum of adaptive and maladaptive modes of relating. He notes that, as part of interpersonal maturation, a person should become competent in attaining and maintaining all of the adaptive positions in order to achieve versatility (Birtchnell, 2002). For example, one should seek to be adaptively cooperative (e.g., social, warm, and friendly) rather than its maladaptive variant (e.g., overfamiliar, obsequious, and desperate) in order to encourage adaptive responses from the other party engaging in the interpersonal interaction. This would suggest that if police interrogators wish to elicit adaptive responses from suspects, they should engage in adaptive behaviors rather than maladaptive behaviors such as coercion. Being adaptively versatile also requires officers to be responsive to the behaviors of suspects, thus adapting their behaviors accordingly rather than continually adopting one particular adaptive behavior. For example, if a suspect is being sarcastic, punitive, attacking, and unfriendly (maladaptive confrontation), police officers should be frank, forthright, and critical (adaptive confrontation) in an attempt to encourage adaptive suspect behavior.

The Present Study

Overall, MI and the IBC should be viewed as compatible and as providing a framework for examining the use of rapport within interrogations (Alison et al., 2013). For example, interviewers possessing versatile and competent interrelating skills (adaptive interviewing behavior) who are able to challenge and be authoritative within a broader empathic and accepting context (MI-consistent skills) should facilitate rather than hamper an alliance. Indeed, Alison et al.'s (2013) findings showed that MI-consistent interviewing behavior was positively associated with adaptive suspect interpersonal behavior, which, in turn, led to an increase in the amount of useful information generated by suspects. Even minimal use of maladaptive interpersonal interviewer behavior increased maladaptive suspect behavior and decreased the amount of useful information generated. This suggests that while it may not always be possible to increase yield from highly resistant suspects, interviewers can make the situation worse by engaging in maladaptive interpersonal behaviors.

Advancing the findings of previous studies, this paper uses the ORBIT tool to examine the impact of rapport-based strategies on convicted terrorists' use of CITs during police interviews. Accordingly, we hypothesize that MI skill and IBC measures will be related such that MI-consistent interviewing skills will be significantly positively associated with adaptive interviewing behaviors and significantly negatively associated with maladaptive interviewing (hypothesis one). Drawing on the findings of Alison et al. (2013), we also hypothesize that MI-consistent interviewing skills and adaptive interviewing behaviors will significantly reduce the use of CITs, while MI-inconsistent interviewing skills and maladaptive interviewing behaviors will significantly increase the use of CITs (hypothesis two).

Method

Data Set

The data set comprises audio and video recordings of 181 police interviews with 49 convicted suspects of terrorism (mean number of interviews per suspect was 2.93 ± 1.79; range 1–8). Of the 49 suspects, 23 were international (93 interviews), 19 were paramilitary (47 interviews), and seven were right-wing terrorists (41 interviews). The total number of interview tapes analyzed (whereby each tape was 45-min long) was 878; this represented over 650 hr of interviewing content and the largest sample of terrorist suspect interviews to date.

Each interview was conducted by pairs of police interviewers between 2004 and 2010. All interviewers had undergone advanced interviewer training (Tier 3) and were specifically assigned to regional counter-terrorism units across a number of geographic areas in the U.K. and Ireland. In total, 84 interviewers from four counter-terrorism units in the U.K. and from the Garda Siochana in Ireland were analyzed.

It is important to note that the data reported in this article were collected as part of a larger data collection, and some variables have been used in previous publications. Accordingly, a data transparency table has been included in the Appendix to clarify the use of these data.

Counter-Interrogation Tactics Coding Dictionary

A review of relevant behaviors was conducted through thorough analysis of the relevant academic literature (Clemens, Granhag, & Strömwall, 2013; Granhag, Clemens, & Strömwall, 2009), examination of terrorist manuals (e.g., the *Seventeenth Rule* from the Al-Qaeda handbook, the Irish Republican Army *Green Book*), observation, and note-taking of hundreds of police interviews with suspects and consultation and collaboration with police interview trainers. This initial list of possibilities produced 31 CIT categories. In many cases, the behavior occurred in less than .1% of the sample. This obviously frustrated any chance of inter rater coding, as well as the possibility for generalizing any conclusions about these as valid tactics. However, several tactics did appear to emerge with a degree of regularity and many of these related to either a form of formulaic shutting down (no comment and refusing to look at the interviewer) or a form of distraction and denial (retracting previously made statements). Tactics that occurred with a frequency of 1 in 10 of the 45-min sessions were considered for analysis.

After consultation among the research team coders and interview teams and having gone through several example videos, as well as examining initial frequencies of each of the 31 tactics, nine CITs remained. These were (a) refusing to look at interviewer, (b) remaining silent, (c) providing a monosyllabic response, (d) claiming lack of memory, (e) discussing an unrelated topic, (f) providing already well known information, (g) providing a scripted response, (h) retracting previously made statements, and (i) providing no comment.

These included relatively simple categories where the behavior only needed to occur once in a given 45-min segment (e.g., no-comment—*Interviewer*: "For the purpose of the tape can you please tell me your name?" *Suspect*: "No comment") through to

more complex categories such as "unrelated topic," in which the behavior had to be examined within context. For example,

> *Interviewer*: For the purposes of the tape can you please tell me your name?
>
> *Suspect*: I have been waiting in that cell for over an hour without access to the Internet or my mobile. I need to phone my girlfriend.
>
> *Interviewer*: That is no problem. I can definitely enable access to a phone to enable you to ring your girlfriend but I'm afraid I'm unable to give you your actual phone as it is currently being examined for evidential purposes. Would you like to phone your girlfriend now? I'm happy to stop the interview and enable that.
>
> *Suspect*: No, I just want to phone her on that phone. Anyway, the point is, why is my name relevant? You know my name. Why do I need to tell you it?

In these more complex and context-dependent categories, the tactic had to emerge as a persistent feature of the interview rather than a "one-off." Thus, coders do not code simple interviewer-suspect "volleys," but rather tranches of interactions in which the tactic emerges as a macro-level feature of the interaction within each 45-min tape. Therefore, the tactic needs to be understood within context, and if the suspect simply failed to answer one question and spoke of an unrelated topic, this would not constitute a CIT. For example with the category "retraction," the coder only classified this as such if the retraction was pertinent to a significant section of the suspect's account and not a specific detail (e.g., *Suspect*: You know when I said it was Thursday that I went to see Mum, I remember now it wasn't . . . it was Wednesday, maybe even Tuesday). Instead, a retraction would be of the order of magnitude of this:

> *Interviewer*: Yesterday you told us that it was you on the CCTV and that you were speaking to Osman. Can you tell us a bit more about that?
>
> *Suspect*: I did not tell you that yesterday. That is not me on the CCTV. I do not know Osman.

Intercoder agreement. The Kappa Index was used to calculate intercoder-agreement levels for a series of 26 randomly selected interviews. Percentage agreements were also calculated as a high proportion (e.g., 70%) of CITs, which had extreme base rates and very low variance so as to require the inclusion of an additional indicator of agreement. Agreement was categorized into poor (0.00–0.20), fair (0.21–0.40), moderate (0.41–0.60), strong (0.61–0.80), and near complete agreement (>0.80; e.g., Fleiss, 1981; Landis & Koch, 1977). Agreement for all but one CIT ranged between 92 and 100%.

Agreement for the nine CITs was excellent. Kappa agreements for seven of the CITs were strong to complete/perfect (see Table 1). Fair to moderate agreement was found for the tactics of *revealing well known information* and *remaining silent*, although percentage agreements for those behaviors was still very high (81% and 92%, respectively).

A Principal component analysis reduced these nine behaviors into five distinctly separate clusters: passive (refusing to look at interviewers, remaining silent), passive verbal (monosyllabic response, claiming lack of memory), verbal (discussing an unrelated

Table 1

Intercoder Agreement for Presence of Counter-Interrogation Tactics

	Coder percentage agreement	Intercoder kappa
Unrelated topic	92%	.75
Well-known information	81%	.34
Retraction	92%	.65
No-comment	92%	.65
Refuse to look	100%	1.00
Silence	92%	.48
Scripted responses	96%	.65
Monosyllabic	96%	.65
Lack of memory	100%	1.00

topic, providing well known information, providing a scripted response), retraction of previous statements, and no-comment. Analyses were conducted on these five clusters. Further details of the coding procedure and intercoder agreement as well as results regarding different tactics used by the different suspect groups can be found in Alison et al. (2014).

Interview Coding Manual

The use of global MI and interpersonal skill was coded using ORBIT (Alison et al., 2013). This coding tool was developed to assess the quality of interpersonal interactions between interviewers and suspects and the quantity of useful information and intelligence generated within interviews. This study is focused on measuring interviewers' use of MI skill and interpersonal behavior and the impact that these have on suspects' use of CITs. Accordingly, interviewer behavior was coded on the following two measures: (a) GMIS – Global Motivational Interviewing Scores and (b) IBC-I – Interpersonal Behavior Circle: Adaptive and Maladaptive.

Further details of each of these coding scales, as well as how they were developed and implemented can also be found in Alison et al. (2013). See Table 2 for descriptive statistics relating to interviewer behavior.

Data Analysis

Before any analysis of the measurement models or the structural model of the data, all variables were log transformed. Multiple indices of model fit were calculated to ensure that the model represented a good fit of the data. The χ^2 test for model fit was not used, as the standard χ^2 test is overly sensitive to kurtosis and distribution. Instead, a normed χ^2 value was also calculated (χ^2/df). χ^2/df values between one and five are indicative of an acceptable model fit (Schumacker & Lomax, 2004). In addition, the standardized root mean residual (SRMR) absolute fit index was also used to assess model fit. This measure is less affected by sample size, distribution and kurtosis values of zero represent perfect fit, and values under 0.08 are representative of a good model fit. Model fit was also estimated using the Normed Fit Index (NFI) as this method works well with larger sample sizes as well as the Tucker-Lewis Index (TFI); for both, fit index values above 0.9 are indicative of a good model fit (Ullman, 2001). Finally, two noncentrality-based indices were used to evaluate model fit. For

Table 2

Mean Interviewers' Global Motivational Interviewing Skills and Overall Interpersonal Behavioral Circle Adaptive and Maladaptive Scores

Measure	$M (\pm SD)$
Motivational interviewing	
Acceptance	4.53 (1.60)
Empathy	3.92 (1.55)
Adaptation	5.10 (1.57)
Evocation	3.70 (1.71)
Autonomy	4.52 (1.52)
Interpersonal behavioral circle	
Adaptive	2.23 (0.76)
Maladaptive	0.87 (0.74)

the Comparative Fit Index (CFI), values equal to or greater than 0.95 are indicative of good model fit (Hu & Bentler, 1999). The second noncentrality-based measure of fit was the root mean square error of approximation (RMSEA). RMSEA equal to or lower than 0.06 were used as cut off for good fit (Hu & Bentler, 1999), with values greater than 0.06 but less than 0.08 being described as acceptable (Browne & Crudeck, 1993). Based upon the recommendations of Bollen (1989), hypothesized structural model fit indices were also compared with three alternative models, a fully mediated model (with no direct effects), a direct effects model (no indirect effects), and the independence model (no association between any variables).

In describing specific relationships within the model, unstandardized regression coefficients are reported with the text. In addition, bias corrected bootstrapping was utilized to obtain confidence intervals (95% CI) and associated *p* values for all regression coefficients. Likewise, indirect effects were assessed using bootstrapping to obtain bias corrected confidence intervals (again, bootstrap confidence intervals for indirect effects were 95% CI). As the indirect effects computed with bootstrapping give overall indirect effect of motivational interviewing skills via multiple mediators (e.g., adaptive and maladaptive interviewer behavior), we further broke down these indirect effects in order to ascertain which specific interviewer behaviors were mediating the effects of MI on the different CITs. To do this, we calculated asymmetrical confidence intervals for the individual indirect effects using PRODCLIN. We used PRODCLIN as it is a more sensitive measure than product of the coefficient tests (e.g., Sobel test) as the product of the α (independent variable–mediator) and β (mediator–dependent variable) paths would not be normally distributed and would also be leptokurtic (see Bollen & Stine, 1990; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), therefore demanding the calculation of asymmetrical confidence intervals; this is done by dividing the product of the path coefficients (e.g., αβ) by the *SE* of the pooled path coefficients ($\sigma_\alpha\beta$), (see Fritz & MacKinnon, 2007; MacKinnon, Fritz, Williams, & Lockwood, 2007).

Results

Confirmatory Factor Analysis

Confirmatory factor analysis was used to test the construct validity of the three-factor CIT construct reported by Alison et al.

(2014). Importantly, all factor loadings for all of the CIT factors were significant ($p < .001$). The three-factor structure of CIT (verbal, passive, passive verbal) was confirmed and found to be a good fit on all measures (SRMR = .04, NFI = .96, TFI = .94, CFI = .97, χ^2/df = 3.03, RMSEA = .05, 90% CI [0.03, 0.08]). Likewise, factor loadings for the MI-consistent interviewing skill variable were also all significant ($p < .001$). The overall fit of the model was good (SRMR = .01 NFI = .99, TFI = .98, CFI = .99); although the RMSEA (.09, 90% CI [0.068, 0.133]) and χ^2/df = 7.73 were just over the acceptable level, this is likely to be a product of the large sample size and the basic measurement model described (Chen, Curran, Bollen, Kirby, & Paxton, 2008).

Structural Model

Model fit. The hypothesized structural model proved to be a good fit for the data, and a superior fit to the alternative models (fully mediated, direct effects and independence models). The two discrepancy function measures found the hypothesized structural model to be an acceptable to good fit for the data (χ^2/df = 3.75, SRMR = .04). The other indices all revealed a good model fit (NFI = .93; TFI = 0.92; CFI = 0.95; RMSEA = 0.06, 90% CI [0.056, 0.071]). See Table 3 for the comparison of the fit indices for the hypothesized model with the three alternative models.

Model Evaluation

Importantly, in support of hypothesis two, adaptive interviewing behavior was associated with decreases in passive CITs (unstandardized coefficient = −0.10, *p* = .036; 95% CI [−0.20 to −0.01]). However, adaptive interviewing behavior was not associated with decreases in verbal CITs (unstandardized coefficient = 0.08, *p* > .05; 95% CI [−0.01 to 0.18]), no-comments (unstandardized coefficient = −0.03, *p* > .05; 95% CI [−0.11 to 0.05]), or retraction (unstandardized coefficient = −0.04, *p* > .05; 95% CI [−0.12 to 0.05]). Notably, counter to hypothesis two, adaptive interviewing behavior increased the prevalence of passive verbal responding (unstandardized coefficient = 0.28, *p* = .002; 95% CI [0.17, 0.37]). Maladaptive interviewing behavior was only associated with increased retraction (unstandardized coefficient = 0.12, *p* = .015; 95% CI [0.24, 0.21]), all other *ps* > .05 (see Figure 1).

In support of hypothesis one, the correct use of MI-consistent interviewing skill was associated with improved adaptive interviewing behavior (unstandardized coefficient = 0.47, *p* = .002; 95% CI [0.46, 0.52]) and reductions in maladaptive interviewing

Table 3

Model Fit for the Hypothesized Structural Model and Alternative Models

Model	χ^2/df	SRMR	NFI	TFI	CFI	RMSEA
Hypothesized model	3.75	.04	.93	.92	.95	.06
Mediated model	4.25	.05	.92	.91	.94	.07
Direct effects model	7.95	.13	.85	.81	.87	.10
Independence model	8.62	.15	.81	.79	.83	.11

Note. SRMR = standardized root mean residual; NFI = Normed Fit Index; TFI = Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = root mean square error of approximation.
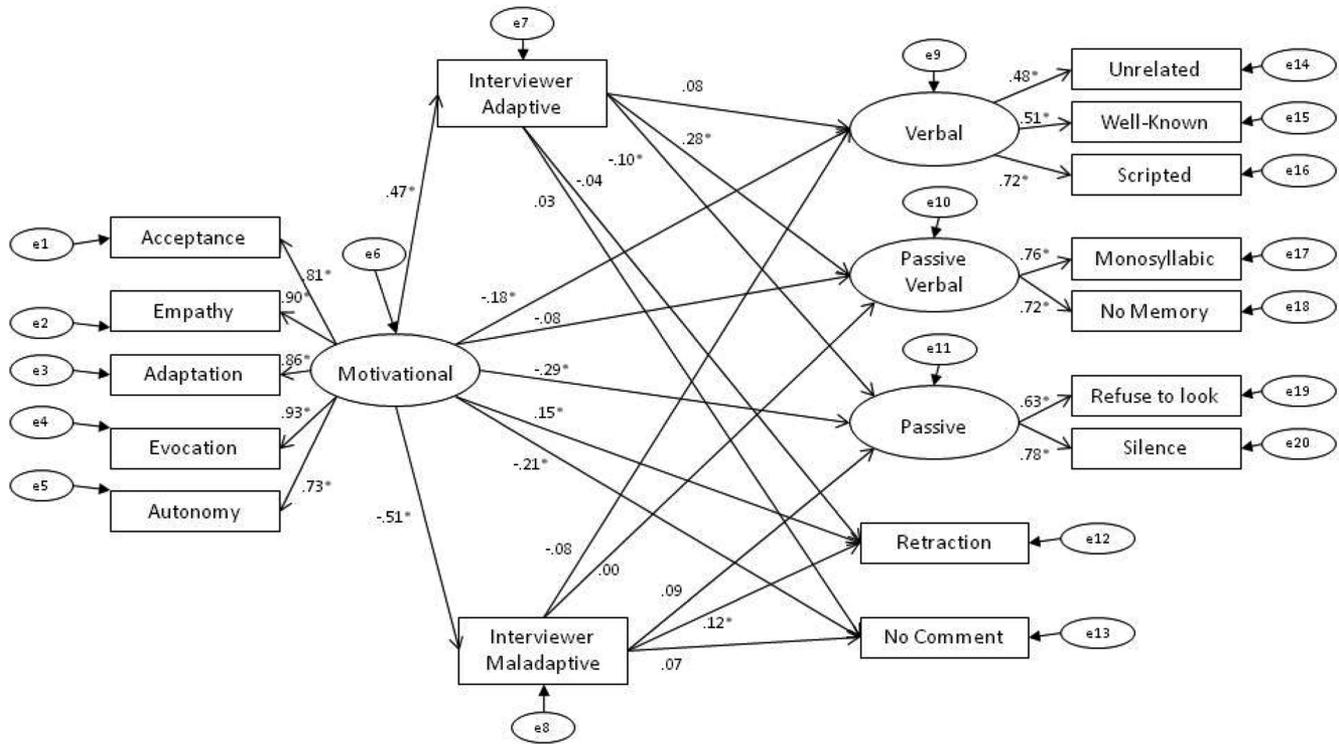
Figure 1. How interviewer adaptive and maladaptive behavior and motivational interviewing skills interact with one another to affect counter-interrogation tactics. Standardized parameter estimates are presented and covariances are removed for ease of understanding. * $p < .05$.

behavior (unstandardized coefficient = -0.51, $p = .002$; 95% CI [-0.57 to -0.45]). In support of hypothesis two, MI-consistent interviewing skill also had significant effects on multiple CITs. Higher MI skill scores were associated with decreases in passive (unstandardized coefficient = -0.29, $p = .001$; 95% CI [-0.42 to -0.18]) and verbal CITs (unstandardized coefficient = -0.18, $p = .002$; 95% CI [-0.30 to -0.07]), although it had no significant effect on passive verbal CITs (unstandardized coefficient = -0.08, $p > .05$; 95% CI [-0.19 to 0.05]). Furthermore, MI-consistent interviewing skill significantly reduced no-comments (unstandardized coefficient = -0.21, $p = .003$; 95% CI [-0.30 to -0.11]), although counter to hypothesis two, it was associated with higher rates of retraction (unstandardized coefficient = $.59$, $p = .009$ 95% CI [0.21 to 0.89]).

MI-consistent interviewing skill also had a significant indirect effect on passive CITs via adaptive and maladaptive interviewing behavior (95% CI [-0.49 to -0.07], $p = .007$). In order to investigate the specific indirect effects we used PRODCLIN (MacKinnon, Fritz, Williams, & Lockwood, 2007) to calculate asymmetric confidence intervals for the indirect effect of MI skill via increases in adaptive interviewing behavior and a separate set of confidence intervals for the indirect effect via maladaptive interviewing behavior. Significantly, it was found that the indirect effect of MI skill on reducing passive CITs was via its effect on adaptive interviewing behavior (asymmetrical 95% CI [-0.26 to -0.01]), but not via its effect on maladaptive interviewing behavior (asymmetrical 95% CI [$-.27$ to 0.01]). MI skill also had

a significant indirect effect on verbal CITs, (95% CI [0.01, 0.29], $p = .035$), although neither pathway was statistically significant when tested in isolation with PRODCLIN. In addition, MI skill also had an indirect effect on the passive verbal CITs (95% CI [0.12, 0.49], $p = .002$); significantly the indirect effect via adaptive interviewing behavior was associated with increased passive verbal CITs (asymmetrical 95% CI [0.17, 0.42]), but the indirect effects via maladaptive interviewing behavior were not significant.

Finally, we investigated the indirect effects of MI skill on the single CITs, retraction, and no-comment. There was no significant indirect effect of MI skill on no-comment responses (95% CI [-0.57 to 0.05], $p > .05$). However there was a significant indirect effect of MI skill on retraction (95% CI [-0.54 to -0.07], $p = .011$). Further investigation of this effect using PRODCLIN found that MI skill significantly reduced retractions via decreasing maladaptive interviewing behavior (asymmetrical 95% CI [-0.40 to -0.05]), but the indirect effects via adaptive interviewing behavior were not significant.

Discussion

This field study represents the largest operationally relevant and structured observation of rapport-based interpersonal skills and their influence on CITs in police interrogations. The sample included a broad range of interviewers, interviewees, and ideological and extremist views, with Al-Qaeda and Al-Qaeda-inspired terrorists, paramilitaries, and right-wing extremists. As in Alison et al. (2013), in the vast majority of cases interviewers demonstrated

high levels of both MI related skills (autonomy, evocation, acceptance, empathy, and adaptation) and adaptive interviewing behaviors. The configuration of these had a significant influence on reducing many of the CITs during the course of the interviews. However, the direct and indirect effects of these varied in terms of the breadth and intensity of their influence, with MI-consistent interviewing skills seemingly the fulcrum around which most of the positive influences were centered. In support of hypotheses one and two, the MI approach appeared to reduce interrogator maladaptive behavior and interviewee passive, verbal, and no-comment responding. Furthermore, MI skills indirectly reduced passive and verbal CITs through increasing adaptive and reducing maladaptive interrogator behavior. Although interpersonal behaviors had an effect on CITs, this was less widespread. Adaptive interrogator behaviors reduced passive tactics but they also increased passive verbal ones. Counter to hypothesis two, adaptive interrogator behavior had no influence on verbal, retraction, or no-comment tactics, while maladaptive interrogator behavior increased retraction. Of course, these results need to be carefully interpreted regarding cause and effect because, at this stage, we have not examined specific sequences of behaviors, and as such, the suspect could have influenced the interviewer as much as the interviewer influencing the interviewee. However, we do know that in those instances where at initial stages suspects appeared to be committed to no-comment interviews, or silence, specific sets of MI relevant behaviors appeared to assist in enabling suspects to talk. Subsequent studies need to carefully examine the mutual influence of both parties as well as explore whether specific and predictable sequences emerge.

In summary, the broad atmosphere engendered across these interviews and, as captured by our rearticulation and formulation of the MI components of ORBIT, had profound and positive direct effects on diminishing CITs and indirect effects through influencing the interpersonal behavior of the interviewer and the suspect. Perhaps most significantly, MI skills were able to exert some powerful influence on those CITs associated with an initial refusal to talk at the outset of the interview—specifically, refusing to look at the interviewer and complete silence (passive) and no-comment interviews. MI skills also positively reduced verbal CITs (unrelated topics, already well-known information, and scripted responses). As such, MI skills appear to engender a "permissive" environment within which the suspect is able to talk, as well as challenging suspects effectively yet supportively with regards to formulaic verbal responses.

For example, this may occur through the presentation of evidence or exhibits to the suspect and inviting an explanation:

> I have a forensic report here from Dr. Phillips, a forensic scientist. I'm going to take a moment to read a segment from that statement. In it he says, "The swabs taken from Jamal Al-Jabarti's hands tested positive for antimony and barium residue consistent with having handled and fired live weapons. Antimony is a common ingredient in gunpowder and barium is present in the primer used for the firearm." Jamal, can you think of any reason why your hands might have antimony present?

> Poor challenges occur when the challenge is off target, incorrect, misinterpreted, or accusatory. "Dr Phillips report indicates that you have fired a live weapon. That's what really happened isn't it Jamal—you have used a firearm haven't you?" Thus, supportive challenge is

not simply one of cooperative engagement, but is about the successful and professional management of challenge and conflict.

Intriguingly, MI skills increase the likelihood of retractions—a specific and unique CIT peculiar to the Al-Qaeda and Al-Qaeda-inspired group. Retractions include instances where the suspect denies and retracts previously made statements—even in instances where, on previous tapes, they have committed to one line of argument and narrative only to later deny, either in part or entirely, that they had said it. These retractions often came as a consequence of having conferred with a solicitor, perhaps suggesting that either suspects or their robust solicitors had found their clients talking more freely than they might like through the effective and permissive skills of the interviewee and then felt they had to renege on this statement in a subsequent interview. It also may indicate some of the internal conflict within this group insofar as some of this group appeared to drift in and out of commitment to speak over the course of these more effective interviews. It remains unclear as to why this specific CIT is peculiar to this group and poses the question of whether its presence is a function of ideological, religious, cultural, or political influences. In essence though, the fact that retractions increase alongside the reduction in the other passive techniques reinforces the notion that MI skills provide a permissive, completely noncoercive approach in which the suspect's right to speak (or not) is at the heart of the approach. That said, retractions remain a difficult CIT to deal with because they present the interviewer with an additional problem of resolving why the suspect said one thing and now is saying something completely different.

It seems perhaps odd that motivational interviewing directly increases retractions while simultaneously having an indirect effect of reducing retractions via decreasing maladaptive interviewing behavior. This pattern of results is indicative of a suppression effect (or "inconsistent mediation"), as described by Mackinnon, Krull, and Lockwood (2000). This is fairly common in meditation analyses, and if simpler methods were used (e.g., PROCESS), then it would also give rise to a situation in which the total variance explained by the predictor is smaller than the direct effect (excluding indirect effects). Indeed, the criterion for demonstration of mediation does not require the direct effect to be in the same direction as the indirect effect. Essentially, in this model, a direct effect (X–Y) can have a negative association—for example, MI increases retractions—but the indirect effect has the opposite effect, such that MI reduces maladaptive interviewing, which in turn reduces retraction. When looking at the indirect effect, such a relationship is logical. Furthermore, it is important to remember that we are never dealing with 100% of variance explained by a single effect of a variable. Therefore there can be a direct and indirect effect of a single variable that can predict substantial unique variance in the same or opposite directions. The MI to maladaptive interviewing is a plausible and previously reported effect (Alison et al., 2013); likewise, increased maladaptive interviewing to retraction is a plausible effect. This indicates that utilizing motivational interviewing in a way that reduces maladaptive interviewing can have a positive outcome, although using MI techniques to directly attempt to reduce retraction may have a negative effect on suspect responding.

In contrast to MI skills, adaptive interviewer behavior had more modest effects, and although it directly reduced passive responding

(refusal to look at interviewer and complete silence), it increased the likelihood of passive verbal responding (monosyllabic responses and indicating no memory for events). This may illustrate that adaptive interpersonal skills only get one so far in moving suspects from a complete unwillingness to talk to a relatively still unhelpful set of responses in terms of interview yield. Instead, the most powerful influence of adaptive functioning can only come as a product of utilizing these skills alongside an approach that embraces concepts of autonomy, rapport, evocation, and empathy. However, it is worth reinforcing the notion that these rapport-based skills did increase certain CITs that were responsive but not informative. These more responsive—but ultimately evidentially useless—CITs could be argued to be as problematic as not responding at all, but many interrogators see a move from no-comment to some form of response (however evidentially useless, a step in the right direction). Moreover, many terrorists are of the same view, and in Alison et al.'s (2014) factor analysis of common CITs, the authors outline how both paramilitaries and Al-Qaeda and Al-Qaeda-inspired counter-interrogation handbooks espouse the maxim of "whatever you say, say nothing." This does not circumvent the notion that MI may in some respects merely be moving an otherwise unresponsive interviewee to some form of evidentially irrelevant response, but as our previous papers indicate, MI type skill is also effective in increasing the latent variable "yield," comprised of evidentially relevant material in terms of people, locations, actions, and times, as well as capability, opportunity, and motive for the commission, preparation, or instigation of acts of terrorism. As in Alison et al.'s (2013) previous study, maladaptive functioning had a powerful negative affect on suspects and increased CITs—specifically, retraction. As before, maladaptive functioning on the part of the interviewer (and indeed interviewee) was far less evident throughout. As such, the interviews were in large part of these "civil" interactions, even within the most challenging of domains, and it is important to not lose sight of the fact that neither police officer nor terrorist is in the business of displaying negative challenges (attacking, punitive, sarcastic) or dominant stances (demanding, dogmatic, pedantic, rigid). Instead, both sides (though principally interviewers) are more likely to adopt frank, forthright, and critical challenges and adopt more in charge, setting the agenda and advisory dominant roles.

Clearly, the more liberal view that treating individuals with respect, dignity, and integrity is supported by these findings that indicate that such a stance makes these interactions more successful (notwithstanding all the ethical, legislative, and professional aspects). In contrast, approaches that do not accentuate the suspect's personal autonomy, and that fail to make efforts to empathize with suspects or are focused on achieving rapport, are alienating and shut suspects down. Moreover, these approaches are not merely effective at allowing individuals to talk about anything but, rather, direct individuals toward talking about relevant topics. In discussing our findings with police officers, they often interpret the notion of ORBIT-compliant interviewing as being synonymous with being "nice" rather than what we are keen to point out, that it is about achieving rapport and being interpersonally sensitive. Indeed, part of the skill is most certainly about orienting the suspect through the evidentially relevant topics by emphasizing their right to take advantage of "their interview" and to discuss those evidentially relevant domains at their discretion, if they wish

to do so. This involves the interviewer remaining neutral with regards to the evidence and providing a permissive rather than coercive environment within which to talk. Indeed, the more the interviewer emphasizes personal autonomy and choice within a genuinely empathic and rapport-based framework (but within which they are prepared to put the relevant information and evidence to the suspect), the more effective the dialogue between both parties. In contrast, even minimal maladaptive responding, particularly responding that is noncompliant with an ethos of the MI skills, shuts suspects down and diminishes any opportunity for evidentially relevant dialogue.

Although we have made many advances in our understanding of the efficacy of rapport-based interpersonal skills, several questions remain unanswered—specifically, in relation to changes over time and interviewers' abilities in working with suspects over multiple interviews. In many of these cases, there are protracted enquiries, and of course, key facts and evidence need to be put to suspects over the course of that journey. We know little about what works when or whether there are particular phases of the interaction that work better or worse during key moments or transition phases. While coding, we have noticed that several phases appear to emerge with a degree of predictability—opening phases, presentation of evidence, challenge phase, and so forth—and it may be that key MI/IBC approaches are especially effective during key moments or in particular configurations. We are not advocating a specific profile of interviewer responding, though it may be that certain broad phases are important to develop over the arc of an interview. Similarly, we know very little about whether these skills can be taught; none of our interviewers are aware of MI or are aware of IBC models, but nonetheless, many of them are using them implicitly. As in other studies of MI training, it may well be that training packages are merely making effective interviewers more explicitly aware of their effectiveness and that with weaker interviewers, one is merely trying to reduce bad practice. Thus, the extent to which our framework can be used to effect in training, in the same way that other counseling domains has grown, opens up a broader question of training and training retention. However, our studies are consistently finding that the legal requirements and human rights of suspects are not in contrast to or in opposition of what works in increasing the effectiveness of these challenging and complex interactions.

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(*Appendix follows*)

Appendix

Data Transparency Table

The data reported in this article have been previously published and/or were collected as part of a larger data collection (at one or more points in time). Findings from the data collection have been reported in separate articles. MS1 (published) focuses on variables 1, 2, 4, and 5; while MS2 (published, 2014) focuses on variables 3 and 6. MS3 (the current article) focuses on variables 1, 2, 3, and 5. This table displays where each data variable appears in each study, as well as the current status of each study.

Variable	Alison, Alison, Noone, Eltnib, & Christiansen (2013)	Alison, Alison, Eltnib, Noone, Waring, & Christiansen (2014)	MS3 (status = current)
1. Adaptive and maladaptive interviewer behaviors	X		X
2. Adaptive and maladaptive suspect behaviors	X		X
3. Counter interrogation tactics		X	X
4. Interview yield	X		
5. Motivational interviewing	X		X
6. Terrorist group		X	