**Fueling an investigative mindset: the importance of pre-interview planning in police interviews with suspects**

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**Abstract**

Pre-interview planning is vital in interviews with suspects. Via a questionnaire administered to 596 police investigators in Singapore, the current study examined potential associations between pre-interview planning, interviewing behaviours and interview outcomes. Interviewing behaviours were hypothesised to mediate the relationship between pre-interview planning and interview outcomes. It is posited that pre-interview planning fosters an investigative mindset, which in turn, influences the nature of interviewing behaviours employed by investigators. The study also sought to provide insights into police interviews with suspects in Singapore, given the limited research from Singapore on the topic. Rapport-based interviewing behaviours were found to mediate the relationship between pre-interview planning and positive interview outcomes, contributing empirical support to the importance of pre-interview planning. In addition, accusatorial interviewing behaviours were associated with negative interview outcomes. This study also found that police investigators in Singapore reportedfrequent planning prior to their interviews and used rapport-based interviewing behaviours with suspects. These behaviours are in line with the interviewing model adopted in Singapore. Regression analyses showed that participants’ endorsement of rapport-based approaches was predicted by investigator experience, confidence, and interview length. Endorsement of pre-planning of interviews was also predicted by investigator confidence and interview length. Implications of these findings are discussed.

*Keywords: suspect interviewing, pre-interview planning, rapport, accusatorial, interviewing outcomes*

**Introduction**

 Pre-interview planning is nowadays becoming widely accepted as an essential ingredient in the interviewing of suspects. This task is featured in major contemporary interviewing models (e.g., see Bull & Rachlew, 2019; Westera et al., 2019) and surveys of the opinions of professionals have found planning to be deemed important (Walsh & Milne, 2007; Kim et al., 2018). Despite its apparent importance, there exists limited empirical research in actual interview settings on the impact of pre-interview planning to underpin its prominence. Previous research on investigative interviewing has tended to focus largely on aspects of interviewers’ behaviours during their interviews (and not pre-interview planning), partly because access to plans is rarely available.

 Via a questionnaire administered to a large sample of police investigators in Singapore, the current study examined potential associations between pre-interview planning (or the lack of), the interviewing behaviours investigators report that they use in their interviews with suspects, and the outcomes they report to achieve. It is hypothesised that interviewing behaviours may mediate the association between pre-interview planning and interview outcomes. As such, this study aimed to contribute to the limited empirical basis underpinning the importance of pre-interview planning for interviews with suspects, especially in relation to interviewing behaviours and outcomes. The study is conducted as part of the Singapore Police Force’s continual efforts at enhancing the investigative interviewing capabilities of its officers and will offer some insights on police interviews of suspects in Singapore, given the very sparse literature from Singapore and Asia on this topic.

***Investigative interviewing in Singapore***

 Located at the southern tip of the Malaysian Peninsula in Southeast Asia, Singapore is a small, highly urbanized city state with a multi-cultural population of approximately 5.7 million, of whom 70 % are residents (Department of Statistics Singapore, 2020). A relatively affluent country with the second highest GDP per capita in the world (World Economic Outlook Report, 2020), Singapore is also known to be one of the safest countries, having topped the rankings on both Gallup’s Global Law and Order Index since 2015 (Global Law and Order Report, 2020) and Economist Intelligence Unit 2019 Safe Cities Index (in terms of personal and infrastructure security) (Safe Cities Index, 2019). Crime rates are generally low, with the nature of most crimes being non-confrontational and non-violent in nature and with scam-related crimes being one of the key concerns in recent years (OSAC, 2020).

 The primary law enforcement agency in Singapore is the Singapore Police Force. Public confidence in the police is high (Global Law and Order Report, 2020; Seow, 2017) and this has been attributed to the police’s reputed administration, impartiality and efficiency in keeping crime rates low (Ho, 2008). Investigative interviewing is recognized as a key pillar of investigation by the Singapore Police Force and the Singapore Police Force adopts a three tiered, competency-based framework to structure its interview training (Misir, 2016). Tier one introduces new investigators and uniformed frontline officers to investigative interviewing and equips officers with knowledge and skills to conduct interviews for volume crime investigations. Tier two builds on the foundation of Tier one and equips investigators with knowledge and skills to conduct more complex interviews for crimes with specific themes (e.g., property crimes, sexual crimes). It includes progressive training for three categories of investigators that is differentiated by levels of seniority (i.e., assistant investigation officer, investigation officer, and senior investigation officer). Tier three is targeted at supervisors in charge of investigation teams and provides them with supervisory and management skills to plan, monitor and guide interviews conducted by investigators. The official interviewing model adopted by the Singapore Police Force in their interviews with suspects and witnesses is the FAIR model, an acronym which represents a sequential process of police interviewing – Familiarization, Approach, Inquiry and, Review plus Closure (Misir, 2016). The model was introduced in 2007 following a review of existing practices, is adapted from the UK’s PEACE interviewing model (Bull, 2019; Milne & Bull, 1999, Misir, 2016, Westera et al., 2019), and is informed by principles of cognitive interviewing and the extant research literature on investigative interviewing as a whole.

***Interviewing approaches and outcomes***

 The literature on interviewing suspects distinguishes two broad approaches – accusatorial and information-gathering (Bull, 2019; Kelly et al., 2013; Meissner et al., 2015; Russano et al., 2019). One key difference between these two approaches is their main aim during interviews. The accusatorial approach places a premium on eliciting confessions and is guilt-presumptive, often takes place in a high-pressure environment and comprises techniques such as establishing control, confrontation and psychological manipulation (e.g., maximisation and minimization techniques) (Meissner et al., 2015; Vrij et al., 2017; Russano et al., 2019). Investigators adopting the accusatorial approach tended to be biased towards the guilt of suspects and are often focused on eliciting confessions during their interviews, sometimes through the use of psychologically manipulative techniques (Kassin et al., 2003; Meissner & Kassin, 2004; Narchet et al., 2011, Meissner et al., 2014).

In contrast, the rapport-based, information-gathering approach is characterised by a strong emphasis on fact-finding, the use of active listening strategies and open-ended questions and the strategic presentation of evidence to clarify contradictions either within the suspect’s account or between the suspect’s account and what the interviewer knows (Granhag & Hartwig, 2015; Kelly et al., 2013; Russano et al., 2019; Vrij et al., 2017). Investigators adopting the information-gathering approach are encouraged to plan prior to their interviews, be in an open frame of mind, and use rapport-based strategies to set suspects at ease and elicit accurate, comprehensive and reliable accounts voluntarily (Milne & Bull, 1999; Russano et al., 2019; Walsh & Marques, 2022).

 In terms of interview outcomes, a meta-analytic study by Meissner et al. (2014) revealed (almost ten years ago when the relevant literature was more limited than nowadays) that while both approaches enhance the likelihood of confessions, the information-gathering approach tended to enhance the potential for reliable confessions, while reducing the potential for false confessions. Similarly, from a study that utilised an experimental design with mock suspects to examine interviewing approaches in an intelligence-gathering context, Evans et al. (2013) reported that information-gathering interviews produced more confessions, relevant information, and cooperation from study participants, compared to accusatorial interviews.

 Elements of the information-gathering approach have also been linked to positive interview outcomes. For instance, Cleary and Bull (2018) reported from their survey of 418 US prisoners on their perspectives of police interrogations, that participants reported preferences for strategies that are rapport building and non-accusatorial in nature. Such findings suggest that police may be effective in their interviews if they employ rapport-based interviewing approaches. Walsh and Bull (2012) reviewed 142 actual suspect interviews conducted by benefit fraud investigators and found the effective use and maintenance of rapport to be associated with substantial information gain from suspects. In particular, they reported that interviewers who were able to establish and maintain rapport throughout their interviews were five times more likely to obtain a satisfactory outcome (in terms of comprehensive, relevant accounts). Similarly, Wachi et al. (2018) found in their experimental study on (mock) suspect interviewing practices in Japan, that participants assigned to the guilty condition were more likely to confess when they were interviewed using a rapport-based interviewing approach. Leahy-Harland and Bull (2017) reviewed real-life audio taped interviews with 56 suspects of serious crimes and also found a positive association between interviewer use of (i) rapport interviewing strategies and (ii) open-ended questions with an increased likelihood of suspect admissions.

 It is therefore becoming clearer from previous research that the information-gathering interviewing approach is associated with a host of positive interview outcomes (in those countries where relevant research has to date been carried out). On the other hand, while the accusatorial interviewing approach is linked to increased confessions (Meissner et al., 2014), it is possible that some of the confessions could be attributed to fear and intimidation experienced by suspects, given the inherent nature of that approach (Holmberg & Christianson, 2002). Subsequent to such interviews, it is not unthinkable that given the opportunity, some suspects may retract their confessions or make official complaints about their treatment (Kassin, 2012). It is also possible during such interviews that some suspects may experience psychological reactance due to perceived unfair treatment (Brehm, 1966; Brehm & Brehm, 1981; Gudjonsson, 2003). As a result, they may only then decide to be uncooperative or remain silent during their interviews (Cleary & Bull, 2021). Such outcomes were reported from field studies by Goodman-Delahunty et al. (2014) and Kelly et al. (2016) who examined samples of interviews with high value detainees and suspects of serious crimes respectively.

***Pre-interview planning***

 The extant guidance on pre-interview planning commonly includes topics such as appreciating the reason for the interview, becoming familiar with the interviewee, and with relevant facts of the case/evidence/information, identifying the points to prove, assessing what evidence is required, as well as preparing interview plans (Kim et al., 2018; St-Yves & Meissner, 2014). Through planning, investigators should be able to determine the aims of their interviews and devise strategies to attain these (Smith & Milne, 2011), including how topics and questions are to be organized and when and how pieces of information/evidence are to be disclosed during the interview (Kim et al., 2018; Granhag & Hartwig, 2015; Sandham et al., 2020; Walsh & Bull, 2015). Good planning also includes consideration for the setup of the interview room, the logistics required for the interview, the parties involved and their roles (St-Yves & Meissner, 2014; Kim et al., 2018).

 Mumford et al. (2001) claimed that psychological research in general appeared to have neglected planning, despite its apparent impact on performance for many complex, daily tasks. The extant research, however limited, suggests that planning under certain conditions, does impact performance (Mumford et al., 2001). A theory related to planning is ‘goal setting’, which describes goals as the intent of an action, and it asserts that goals have a widespread impact on staff behaviour and performance in organizations. (Locke & Latham, 2002). Goals are said to impact performance by directing focus and effort, enhancing the resolve of the individual(s) and promote strategy development towards goal achievement (Locke & Latham, 2002, 2006).

 The benefits of planning have been documented across several contexts, including competitive sports (Blumenstein & Orbach, 2020); business organizations (Balarezo & Nielsen, 2017), and academic performance (Chen et al., 2017). Within the investigative interviewing context, previous research has largely focused on the views of investigators towards pre-interview planning, how often investigators plan for interviews and their planning skills. Its findings suggest that while investigators possess favorable views regarding the importance of pre-interview groundwork, they tend to only plan occasionally and lacked planning skills (Adams-Quackenbush, et al., 2019; Cherryman & Bull, 2001; Kim et al., 2018; Scott et al., 2015; Soukara, et al., 2002; Walsh & Bull, 2010, 2011; Walsh & Milne, 2007).

 Previous research on pre-interviewing planning and interview performance has largely been conducted as part of overall field evaluations of the PEACE model (Clarke & Milne 2001; Walsh & Milne, 2008; Walsh & Bull, 2010). Tudor-Owen et al. (2016), in Australia, innovatively found an association between interview plans and actual interviewer behaviour. Their study examined interview plans of police recruits and found that the participants covered a substantial proportion of the content from their interview plans in their interviews with witnesses, especially plans pertaining to the 'Engage and Explain’ stage of the interview. Clarke and Milne (2001) reviewed recordings of police interviews with suspects in the UK and reported a positive association between (apparent) pre-interview planning and the quality of the interview (assessed by the level of skills demonstrated by the interviewer). Walsh and Milne (2008) reviewed recordings of benefit fraud investigators’ interviews with suspects in the UK and found that more comprehensive accounts were obtained from suspects in interviews that were assessed to involve skilled levels of planning. Walsh and Bull (2010) also examined interviews by benefit fraud investigators and reported a positive association between proficient levels of (apparent) pre-interview planning and overall interview quality and positive interview outcomes (though they like other most other researchers, did not have direct access to plans).

***Pre-interview planning and investigative mindset***

The interviewing of suspects is a purposeful activity that is goal directed. Amongst the possible goals of the interview include the gathering of investigation relevant information and the elicitation of confessions. Gollwitzer et al. (1990) identified two broad, sequential phases of goal directed behaviours (deliberative and implemental) and proposed distinct mindsets operating at these different phases. In the deliberative phase, individuals’ mindsets are characterized by open mindedness which promotes the accurate and unbiased analysis of information about the feasibility and desirability of possible goals. Once a goal has been decided, the implemental phase involves individuals having closed mindsets that are focused on implementing specific actions that facilitate the achievement of the goal.

 Translated to an investigative setting, it is possible that through the process of planning (i.e., deliberative phase), investigators should be able to identify the ‘points to prove’ and the gaps in information necessary to establish what happened and criminal culpability (or otherwise, keeping an open mindset; Fahsing, 2019). This in turn, informs investigators regarding the information they require from their interviews with their suspects and the interview strategies they need to adopt in order to obtain the information. By implication, engaging in pre-interview planning may well fuel investigative mindsets primed towards information gathering as investigators approach their interviews. Hence, it is possible that pre-interview planning may motivate investigators towards using information-gathering interviewing behaviours (i.e., implemental phase), given that such behaviours are nowadays known to be well suited to enable investigators to obtain the requisite information from their interviews.

Conversely, a lack of pre-interview planning would likely mean that investigators approach interviews with inadequate information and fleeting impressions about their cases. They may not be aware of the exact information needed to establish criminal culpability/innocence, or which aspects of the event to probe in-depth for evidence/information during their interviews. Under such circumstances, it is possible that some investigators may be more motivated to pursue confessions, as confessions would be deemed by such investigators as the most efficient way to establish what happened and criminal culpability within the (often) limited time afforded by the entire investigation process. As legal regulations governing interviewing are often general and prohibit only the use of the most coercive and unethical interviewing practices, these investigators may be inclined towards the use of more accusatorial interviewing behaviour (which may comprise manipulative behaviours that are subtle and not prohibited by legal rules) under such circumstances regardless of their training, as such behaviour are associated with confessions (Häkkänen et al., 2009).

Previous research, albeit limited, does suggest that investigators’ interviewing behaviours may vary according to the contextual factors (e.g., available evidence, attitude of suspect) of the case under investigation (Redlich, et al., 2014; Soukara et al., 2002). Hence, it is possible that the level of pre-interview planning could be one of the contextual factors that is associated with the interviewing behaviours of investigators.

***The current study***

The current study had two broad objectives. First, it examined potential associations between pre-interview planning (or the lack of), the interviewing behaviours investigators reported that they use in their interviews with suspects, and the outcomes investigators reported to achieve. The currently available research and theory suggested that pre-interview planning was associated with interviewing behaviour, overall interview quality, and interview outcomes. It was therefore expected that information-gathering interviewing behaviours would mediate the relationship between pre-interview planning and positive interview outcomes (characterized by comprehensive accounts/full confessions, revealing information on accomplices and other possible offences) (Hypothesis 1). It was also expected that accusatorial interviewing behaviours would mediate the relationship between the lack of planning and negative interview outcomes (characterized by suspects remaining silent, retracting confessions and allegations of interviewing malpractice) (Hypothesis 2).

The current study also sought to offer insights on police interviews of suspects in Singapore. As the FAIR interviewing model (which is an information-gathering interviewing approach) was introduced in the Singapore Police Force since 2007, it was expected that participants would report that they frequently plan prior to their interviews and use rapport-based, information-gathering interviewing behaviours in their interviews with suspects (Hypothesis 3). In addition, potential associations between individual differences (i.e., interviewers’ experience, level of confidence in their interviewing skills and length of interviews) and the reported use of interviewing behaviours were explored.

**Methods**

***Participants***

The participants were 596 police investigators (439 males and 157 females) from the Singapore Police Force recruited by convenience and snowball sampling. The participants were aged between 22 and 56 years (*M =* 34.37*, SD =* 6.43), were actively conducting investigative interviews and were of different ranks, ranging from Sergeant to Deputy Superintendent of Police[[1]](#footnote-1). Of 596 participants, 42 were Sergeants, 71 Staff Sergeants, 96 Senior Staff Sergeants, 144 Station Inspectors, 164 Inspectors, 70 Assistant Superintendent of Police and 8 Deputy Superintendent of Police. There was one missing value. Eighty-five percent of the participants reported having up to 15 years of experience as criminal investigators (106 of these having less than one year, 210 between 1-5 years, 122 between 6-10 years, 71 between 11-15 years, 44 between 16-20 years, plus 43 more than 20 years). The types of crimes participants reported being most familiar with investigating were property crimes (e.g., theft, housebreaking, robbery), n = 260, interpersonal crimes (e.g., sexual crimes, assault, homicide), n = 89, commercial crimes, n = 66, a variety of miscellaneous crimes, n = 31 and cybercrimes, n = 15. One hundred and thirty-one officers reported being familiar with investigating more than one type of crime that included property, interpersonal, commercial and cyber related crimes (four participants omitted their responses). Four hundred and fifty-five participants indicated they had received previous interview training, while 26 indicated they had not (there were 115 missing values, possibly due to the way the question was worded, which required participants to list the actual titles of previous interviewing courses they had attended).

***Questionnaire***

The present study drew from the dataset of a larger organizational survey that examined participants’ attitudes towards the video recording of interviews with suspects (which is new in Singapore[[2]](#footnote-2)) and their current suspect interviewing practices and experiences. The survey was part of the organization’s efforts to examine officers’ readiness to undertake video recorded interviews with suspects and the nature of any interventions that may be required in this capacity. The larger organizational survey comprised 98 items organized in the following four sections: (i) demographic information, (ii) opinions towards video recorded interviewing, (iii) current interviewing behaviours, and (iv) suspect behaviours encountered during interviews. Data from three sections of this questionnaire were drawn on for the present study (i.e., sections one, three and four). Approval from the organization was obtained and ethics approval was obtained from the first author’s university for the present study.

The first section comprised eight items concerning demographics, participants’ experience, training, self-rating of confidence level in interviewing skills, and average length of interviews with suspects. The second section comprised 50 items. Two items asked about the self-reported frequency and nature of pre-interview planning undertaken by participants [these being (i) ‘Review available information (e.g., statements from witnesses, CCTV footage) in preparation for the interview’ and (ii) ‘Develop an interview plan (e.g., identify points to prove, topics to cover for each interview session)’]. The other 48 items asked about participants’ interviewing behaviours with suspects. Items for this section were derived from previous research (e.g., Kassin et al., 2007; Alison, Kebbell & Leung, 2008, Kelly, Redlich, Miller & Kleinman, 2013) and included four categories of interviewing behaviours (i.e., minimisation, maximisation, intimidation, rapport) that characterised the accusatorial interviewing approach and rapport-based, information-gathering interviewing approach respectively. Interviewing behaviours related to minimization comprised items such as ‘Offer suspects excuses to justify their offending behaviour’ and interviewing behaviours related to maximisation included items such as ‘Remind suspects that it is in their interests to cooperate early’. Interviewing behaviours related to intimidation included items such as ‘Express impatience, frustration, and/or anger at suspects for being uncooperative’ and rapport-based interviewing behaviours included items such as ‘Appear attentive when suspects talk (e.g., nodding, say uh-huh, maintaining eye contact)’. Items from each category were randomly organized throughout the section. Participants rated each statement on a 5-point Likert scale (1 = Hardly ever, 2 = Rarely, 3 = Sometimes, 4 = Often and 5 = Nearly always), indicating how frequently participants employed the behaviour.

 The final section contained seven items describing some potential suspect behaviour encountered during investigative interviews. It included statements such as ‘Remained silent throughout the interview and ‘Revealed other offences they have committed’. Participants responded on a 5-point Likert scale (1 = Hardly ever, 2 = Rarely, 3 = Sometimes, 4 = Often and 5 = Nearly always), indicating how frequently a behaviour was encountered by them. Of the seven items, three were desired suspect behaviours indicative of positive interview outcomes, while four were undesired suspect behaviours indicative of negative interview outcomes.

***Procedure***

 Hard copy questionnaires were completed anonymously by participants during a series of in-service training workshops[[3]](#footnote-3) (prior to the start of each workshop) over a period of approximately two years, from August 2018 to September 2020. Participants were briefed regarding the intent of the survey (to identify training interventions that may be needed to help them prepare and adapt to conducting video recorded interviews) and assurances were provided regarding the confidentiality and anonymity of their responses. In addition, participants were told that many participants (more than 400 participants) would be invited to participate in the survey and the survey team was interested in aggregated responses of all the participants. Participants were also informed that participation in the survey was voluntary and that they could cease their participation at any point in time. No incentives were provided. Participants took approximately 30 minutes to complete the questionnaire.

**Results**

 Participants reported, on a 10-point Likert scale (1= not confident at all, and 10 = very confident), that they were rather confident in their interviewing abilities (*M =* 7.28, *SD =* 1.28*, N =* 595*)*. Participants also estimated the duration of their interviews with suspects (per session) and reported that they take on average, 69.63 minutes (*SD =* 42.02). To correct for the excess kurtosis value (4.08, *SE =* 0.2), the interquartile rule was used to identify significant outliers. Omission of outliers (*N =* 6) resulted in a normal distribution and indicated an average interview duration of 67.77 minutes (*SD* = 37.93; *Min* = 15 minutes, *Max* = 210 minutes; *N* = 580).

***Interview planning, behaviour and outcomes***

Table 1 presents the means and standard deviations of the interviewers’ self-reported behaviours. Participants reported that they often planned for their interviews. The two planning-related items were collapsed to create an aggregated item labelled ‘Planning’ (*M =* 4.18*, SD =* 0.64).

Insert here - Table 1. Means and standard deviations of interviewer behaviour

 In terms of interviewing behaviours, the category of behaviours most commonly reported by participants were rapport-based interviewing behaviours. Participants reported ‘clarifying inconsistencies’ as the behaviour they used most frequently, followed by ‘appearing attentive when suspects talk’ (e.g., nodding, say uh-huh, maintaining eye contact) and by ‘asking open-ended questions’. The category of behaviours least commonly endorsed by participants were interviewing behaviour associated with intimidation. ‘Vulgarities’ were reported to be least frequently used, together with ‘rapid fire’, and ‘forced choice’ questions.

 Participants also reported that they experienced positive interview outcomes more frequently compared to negative interview outcomes. The interview outcome-related items were collapsed to create two superordinate items, positive interview outcomes (*M* = 3.08, *SD* = 0.56) and negative interview outcomes (*M* = 1.61, *SD* = 0.55).

***Exploratory factor analysis***

 To explore the way participants rated the behaviours, a principal component analysis (PCA) was conducted on the 48 items. PCA was used because the underlying purpose was to reduce a large set of data in order to identify and to compute composite scores for the components underlying the items. Orthogonal rotation (varimax) was selected because the factor correlation matrix (derived from an exploratory oblique rotation) indicated that the correlations between the factors were less than ± 0.32 (Tabachnick & Fiddell, 2007). The Kaiser–Meyer–Olkin measure verified that the sample was adequate for the analysis, KMO = 0.89 (‘great’ according to Field, 2009), and all KMO values for individual items were > 0.76, which are well above the acceptable limit of 0.50 (Field, 2009). Bartlett’s test of sphericity χ*2* (561) = 6031.51, *p* < .001, indicated that correlations between items were sufficiently large for PCA. Items with communalities ≥ 0.20 (Child, 2006) and factor loadings of ≥ .40 (Stevens, 2002) were considered for further analysis. This resulted in 14 items being dropped, with 34 items considered for further analysis. An initial analysis was run to obtain eigenvalues for each component in the data. Eleven components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 51.88% of the variance. The scree plot was slightly ambiguous and showed inflexions that justified retaining either four or seven components. Based on a parallel analysis (O’Connor, 2000), a 4-component structure was identified, accounting for 41.79% of the total variance. Component 1 accounted for 21.50% of the variance and included interviewing behaviours related to ‘Maximization’ and the mean frequency usage of this component was 2.89 (*SD = 0.68*). Component 2 accounted for 10.74% of the variance and included interviewing behaviours related to ‘Minimization’ with a mean frequency usage of 2.38 (*SD = 0.63*). Component 3 accounted for 5.22% of the variance and comprised elements of ‘Rapport’, with a mean frequency usage of 3.75 (*SD = 0.48*). Component 4 accounted for 4.39% of the variance and involved ‘Intimidation’, with a mean frequency usage of 2.00 (*SD = 0.62*). Cronbach’s alphas of the respective components were in the acceptable range (> 0.70): these being Maximization (α = 0.84), Minimization (α = 0.79), Rapport (α = 0.75) and Intimidation (α = 0.74).

 Of the four components, ‘Maximization’, ‘Minimization’, and ‘Intimidation’ are associated with accusatorial interviewing, while ‘Rapport’ is associated with information-gathering interviewing. All components were statistically differentiated in their frequency of usage. Pairwise t-tests indicated that elements of ‘Rapport’ was used significantly more often than the other components, followed by ‘Maximization’, ‘Minimization’ and ‘Intimidation’ (all pairwise *ts* (596) ≥ 46.46, *p* < 0.01). Table 2 presents the results of the PCA, as well as the eigenvalues and percentage of accounted variance of each component.

Insert here Table 2: Factor loadings, eigenvalues and percentage of accounted variance of interviewing behaviour

***Individual differences in usage of interviewing behaviours***

 Regression analysis was conducted to determine if individual differences in participants’ characteristics predicted their frequency of use of each behaviour. Four predictor variables were included in the models: (i) the number of years of investigative experience, (ii) level of confidence in interviewing skills, (iii) average duration of their interviews with suspects, and (iv) type of crime participants’ are most familiar with investigating. As the type of crime participants are most familiar with is a categorical variable, dummy variables were created to facilitate its inclusion in the analysis, with multiple crimes designated as a reference category.

Insert here Table 3: Results of regression models predicting interviewing behaviour usage from investigative experience, confidence, duration of interviews and type of crime.

 The results of the analysis (see Table 3) revealed that participants who reported higher confidence in their interviewing skills were more likely to report engaging in pre-interview planning (*r* = 0.18) and use of rapport behaviours (*r* = 0.18). Participants who conducted longer interviews were more likely to report pre-interview planning (*r* = 0.16) and use of rapport (*r* = 0.22). Those who had more years of investigative experience were also more likely to report using rapport (*r* = 0.22). Those who reported being familiar only with investigating property crimes were less likely to report using rapport compared to participants who reported being familiar with investigating more than one crime (*rpb* = -0.19).

***Correlation analysis***

 Table 4 presents the correlations between the behaviours and shows that pre-interview planning was significantly correlated with rapport. Maximization was positively related with minimization, intimidation and rapport, although the strength of the association with rapport was relatively weaker. Minimization was positively related to rapport, maximization and intimidation. It is noteworthy that minimization was more strongly related to maximization and intimidation than to rapport.

 In terms of outcomes, (i) pre-interview planning, rapport and minimization were positively related to positive interview outcomes, while (ii) maximization, minimization and intimidation were positively related to negative interview outcomes. It is notable that although minimization was significantly correlated with both positive and negative outcomes, the correlation was weaker with positive outcomes.

Insert here Table 4: Correlations between the main research variables

***Mediation analysis***

 Regression analysis was used to examine the hypothesis that interviewing behaviours might mediate the effect of pre-interview planning on interview outcome. The effects of age, investigation experience, level of confidence in interviewing ability, and interview duration were controlled in the analysis, given the significant correlations between these variables with the independent variable of interviewing behaviours. Pre-interview planning was found to be a significant predictor of positive interview outcomes, *b* = 0.13, *t*(572) = 3.36, *p* < 0.001.Pre-interview planning was also a significant predictor of the use of rapport, *b* = 0.24, *t*(572) = 8.33, *p* < 0.001 and rapport was a significant predictor of positive interview outcomes, *b* = 0.21, *t*(571) = 3.84, *p* = 0.001. These findings support the mediational analysis. After controlling for rapport, pre-interview planning was no longer a significant predictor of positive interview outcomes *b* = 0.08, *t*(571) = 1.95, *p* = 0.052. A Sobel test was conducted and found full mediation in the model (z = 3.49, *p* = <0.001). The indirect effect was tested using a percentile bootstrap estimation approach with 10,000 samples (Shrout & Bolger, 2002), implemented with the PROCESS macro Version 3.5 (Hayes, 2017). The results indicated that the indirect coefficient was significant, *b* = 0.05, *se* = 0.016, 95% CI = 0.0212, 0.0843. Thus, the results of the mediation analysis suggest that rapport fully mediated the relationship between pre-interview planning and positive interview outcomes. Mediation analysis was not conducted for the other three interviewing behaviours, as pre-interview planning was not a significant predictor of their usage. However, it is notable that minimization, maximization and intimidation were significant predictors of negative interview outcomes.

**Discussion**

This study had two objectives. First, it examined potential associations between pre-interview planning (or the lack of), the interviewing behaviours investigators reported that they use in their interviews with suspects, and the outcomes investigators reported to achieve. Previous research on pre-interview planning had largely been focused on investigators’ attitudes, level of planning and reasons associated with decisions to plan. Apart from previous field evaluations of the PEACE model (Clarke & Milne 2001; Walsh & Milne 2008; Walsh & Bull 2010), there were limited studies that had empirically examined the association between planning and interview outcomes. Hence, the current study added to the limited research on pre-interview planning, by not only examining the association between planning and interview outcomes, but by providing an empirical understanding of the factors that potentially facilitated the relationship between the two variables.

In light of the available research and theory, the interviewing behaviours investigators reported that they use in their interviews with suspects was hypothesised to mediate the relationship between pre-interview planning and interview outcomes. Specifically, Hypothesis 1 proposed that information-gathering interviewing behaviours would mediate the relationship between pre-interview planning and positive interview outcomes (characterized by comprehensive accounts/full confessions, revealing information on accomplices and other possible offences). Hypothesis 2 proposed that accusatorial interviewing behaviour would mediate the relationship between the lack of planning and negative interview outcomes (characterized by suspects remaining silent, retracting confessions and allegations of interviewing malpractice).

The second objective of the study was to provide insight into police interviews of suspects in Singapore, given the sparse research from Singapore and Asia on this topic (though see Chung, et al., 2021; Zeng, et al., 2020). As the FAIR interviewing model (which is an information-gathering interviewing approach) was introduced in the Singapore Police Force in 2007, Hypothesis 3 proposed that participants would report that they frequently plan prior to their interviews and use rapport-based, information-gathering interviewing behaviours in their interviews with suspects (Hypothesis 3). In addition, potential associations between individual differences (i.e., interviewers’ experience, level of confidence in their interviewing skills, and perceived average length of interviews) and the reported use of interviewing behaviours were explored.

 Hypothesis 1 was supported. As hypothesized, information-gathering interviewing behaviors (described as rapport behaviors in the analysis) mediated the relationship between pre-interview planning and positive interview outcomes. There were positive associations between the reported frequency of pre-interview planning, rapport-based interviewing behaviours and positive interview outcomes, suggesting that investigators who reported more frequently planning their interviews with suspects tended to report using more rapport-based interviewing behaviours and believed they achieved more positive interview outcomes.

The positive association between reported pre-interview planning and positive interview outcomes supports and extends previous research on the topic (which were largely field evaluations) via the use of a different methodology. The positive association found between pre-interview planning and the type of interviewing behaviour supports the assertion that the process of pre-interview planning may contribute to fuelling an investigative mindset where investigators remain open to multiple hypotheses regarding their cases and approach their interviews with suspects using strategies that are tailored towards gathering information. It points to the possibility that investigators who are open-minded regarding their suspects’ guilt (or innocence) may tend to invest more effort to plan for their interviews and in turn, use more information gathering strategies during their interviews. The process of planning may also encourage investigators to be more open-minded as they gain greater awareness regarding the information gaps in their cases that prevent them from being able to reasonably ascertain exactly what happened. In addition, it also highlights the possibility that investigators trained in the information-gathering approach would tend to plan prior to their interviews and use rapport-based behaviours, as both are key elements of the approach.

It is notable that pre-interview planning was no longer a significant predictor of positive interview outcomes when rapport was factored into the positive association between pre-interview planning and positive interview outcomes as a process variable. While this may imply that pre-interview planning is less important as compared to the use of rapport-based interviewing behaviours in police interviews with suspects, it more likely suggests that pre-interview planning must correspond with the use of rapport-based interviewing behaviours in order for positive interview outcomes to be achieved. This is because while investigators may be able to elicit information from their suspects through the use of rapport-based behaviours, in the absence of pre-interview planning, they may not know the points they need to prove and the relevant information they need in order to adequately build a case against the suspect. In addition, they may also not know the topic areas to probe in-depth and be able to verify the credibility of the information provided by suspects during their interviews. Consequently, it may be apparent to the suspect that the investigator is ill-prepared for the interview and this will likely result in poor interview outcomes regardless of whether the suspect is guilty of the offence. Future research may consider exploring the role of pre-interview planning as a moderator variable for the association between rapport-based interviewing behaviours and positive interview outcomes.

The positive association between reported rapport-based interviewing behaviours and positive interview outcomes also adds to the growing body of research on the benefits of a rapport-focused, information-gathering interviewing approach. Not only has the approach and its elements been linked to positive outcomes such as quantity of investigation relevant information and reduced resistance (Alison et al., 2013, 2014; Baker-Eck, Bull, & Walsh, 2020; Collins & Carthy, 2018; Nunan et al., 2020; Walsh & Bull, 2010b), increased potential for deception detection (Granhag & Vrij, 2010; Sandham et al., 2020; Vrij, 2014) and accurate confessions (Meissner et al., 2014; Leahy-Harland & Bull, 2017; Wachi, 2018), the approach has generally been perceived to be fair, research-informed and ethical (Snook et al., 2020). This in turn, contributes to enhancing the trust and confidence of the public in law enforcement and security agencies.

Hypothesis 2 was not supported. The reported use of accusatorial interviewing behaviours (i.e., intimidation, minimization and maximization) was not found to mediate the relationship between the reported lack of planning and negative interview outcomes (characterized by suspects remaining silent, retracting confessions and alleging interviewing malpractice). In particular, the reported level of pre-interview planning was not significantly associated with the reported use of these behaviours or negative interview outcomes. The lack of such a significant association between the reported level of planning and negative interview outcomes could be due to the nature of the outcomes examined in the current study. It is possible that these outcomes may be more impacted by factors that occur within interviews (e.g., interviewing behaviours of investigators), rather than by a more distal factor such as the level of pre-interview planning. Future research may consider more relevant outcomes such as the amount of investigation relevant information elicited. Investigators who are unprepared for their interviews may not know which aspects of their case or the parts of their suspects’ account to probe in-depth for relevant information. Hence, the lack of planning could impact upon the amount of investigation relevant information such investigators can obtain from their interviews. Previous research has also suggested that a meaningful number of suspects may have already decided to cooperate prior to their interviews (Bull, 2013; Leahy-Harland & Bull, 2020). In such situations, the lack of interview planning by investigators may not have a bearing on interview outcomes.

The reported lack of pre-interview planning did not significantly predict the use of accusatorial interviewing behaviour. Some investigators may use such behaviours regardless of whether they plan prior to their interviews. This could be due to their prior training and/or investigative bias (Narchet et al., 2011), rather than to compensate for the lack of planning. Nevertheless, the reported use of such behaviours was here found to be significantly associated with the perceived frequency of negative interview outcomes. This suggests that the use of these behaviours may enhance suspects’ resistance (possibly due to psychological reactance) and supports the currently available research that questions the effectiveness of such an approach (Delahunty et al, 2014; Kelly et al., 2015; Meissner et al., 2014).

This study also provided an insight into police interviews of suspects in Singapore. The FAIR model, an information-gathering model, was introduced in 2007 in the Singapore Police Force to provide guidance on the practice of investigative interviewing. Hypothesis 3 was supported. The impact of the model is evident from the findings as investigators reported that they frequently plan prior to their interviews and using rapport-based interviewing behaviours with suspects, as compared to maximization, minimization and intimidation-related interviewing behaviours. In addition, interviewing behaviours related to intimidation were reported by investigators to be rarely used. It is possible that the use of interviewing behaviours characteristic of an accusatorial interviewing approach could be further reduced with the gradual widespread implementation of video recording for interviews with suspects in Singapore (Lum, 2018), given that video recording will facilitate greater scrutiny regarding proceedings in the interview room. The use of a rapport-based interviewing approach and the audio-visual recording of investigative interviews are also best practices recommended by an international steering committee on effective interviewing for investigations and information gathering (Association for the Prevention of Torture, 2021).

The strong focus on rapport-based interviewing behaviours is consistent with research from several Asian and Western countries (e.g., Sivasubramaniam & Goodman-Delahunty, 2019; Miller et al, 2018; Redlich et al., 2014; Wachi et al., 2016), where law enforcement and security personnel were found to emphasize the use of rapport and relationship building behaviours during investigative interviews. Apart from being endorsed by the official interviewing model, the frequent use of rapport-based interviewing behaviours reported by investigators in the present study also points to the possibility that such behaviours are perceived to be effective by investigators. Indeed, the findings indicated that investigators who reported the frequent use of rapport-based interviewing behaviours also tended to report experiencing more positive outcomes from their interviews.

Hall (1976) distinguishes between low and high context cultures, with the distinction being the degree to which context is assumed during interpersonal communication (Kittler et al., 2011). Low context communication is direct and involves the use of information contained in the message itself to convey meaning. High context communication is indirect and the meaning of the message is implied from the context in which the message is communicated. Generally, many Western, individualistic cultures tended to be characterized by low context communication while many non-Western, collectivistic cultures are often characterized by high context communication (Beune et al., 2009). Previous research has suggested that rapport-based interviewing behaviours may be particularly effective (in terms of positive interview outcomes such as admissions and disclosure of new information) with suspects from high context cultures, given individuals’ emphasis on relational aspects of the interaction in such cultures (e.g., Beune et al., 2009, 2010; Wachi et al., 2014, 2016, 2018). Given that Singapore’s culture is inclined towards being collectivistic and high context in nature (Chang, 1995; Yeo & Pang, 2017), future research could explore this potential cultural aspect regarding the interviewing of suspects.

Regression analyses were conducted to assess the predictive nature of investigators’ background characteristics. Investigators who were more confident tended to report frequent pre-interview planning. Those who were more confident and had more years of experience tended to report using more rapport-based interviewing behaviours. This is consistent with studies by Redlich et al. (2014) and Russano et al. (2014) who respectively found that experienced law enforcement and intelligence practitioners tended to emphasize the importance of rapport in both investigative and intelligence interviewing contexts. In the current study, it is possible that the perceived positive outcomes resulting from pre-interview planning and the use of rapport-based interviewing behaviours may have contributed to enhancing the experienced investigators’ confidence in their interviewing skills. The findings also indicated that investigators who reported frequent pre-interview planning and the use of rapport-based interviewing behaviours also tended to report conducting longer interviews. This finding is consistent with that of Clarke et al. (2011), who found in their study that PEACE-trained investigators tended to conduct longer interviews. Clarke and colleagues opined that PEACE-trained investigators were presumably spending more time gathering, listening to and examining the accounts of suspects.

***Practical implications***

In terms of pre-interview planning, the findings suggest that law enforcement and security agencies should emphasize the importance of pre-interview planning to their investigators. Despite its importance (as perceived by experienced investigators and its association with positive interview outcomes in previous research), the available research suggests that investigators rarely plan, have poor planning skills and lack insights regarding their poor planning skills (Adams-Quackenbush, et al., 2019; Cherryman & Bull, 2001; Kim et al., 2018; Scott et al., 2015; Soukara, et al., 2002; Walsh & Bull, 2010, 2011; Walsh & Milne, 2007). Research by Kim and colleagues (2018) found a strong association between organisational culture and planning intentions. As leaders tend to have a strong influence on organisational culture, it is vital for leaders in law enforcement and security agencies to reinforce the importance of pre-interview planning to their investigators through both formal and informal means of communication to foster a culture of pre-interview planning.

A stronger focus on planning during interview training may also enhance the quality of pre-interview planning. Training should target enhancing investigators’ motivation to plan, in addition to enhancing planning skills - both of which are areas where previous research suggested that investigators were generally poor (Kim et al., 2018; Walsh & Bull, 2010). Following training, it is recommended that feedback by supervisors or experts be incorporated in the workplace to support trainees’ skills development (Powell et al., 2010). Regular, accurate feedback by supervisors or experts is especially critical, given that previous research has established that investigators significantly overestimate their interviewing skills (Walsh & Bull, 2011; Walsh et al., 2017).

 The current findings also provide the Singapore Police Force with insight into interviewing behaviours of its investigators, given the limited research from Singapore on this topic. It highlights the importance of pre-interview planning, the perceived frequent use of rapport-based interviewing behaviours and validates the use of such behaviours within the suspect interviewing context in Singapore and possibly the Asia-Pacific region, given its association with reported frequency of positive interview outcomes. In addition, the findings highlight the importance of avoiding interviewing behaviours characteristic of the accusatorial interviewing approach, given their association with reported negative interview outcomes (also see Alison et al., 2013, 2014).

***Limitations***

Several limitations of the study must be acknowledged. First, owing to the reliance on self-reports, this study could be vulnerable to several types of bias, including social desirability and inaccuracies in recall. While it is possible that a level of social desirability bias may feature in participants’ responses, the commonly used procedures to reduce social desirability bias were employed in this study (e.g., participants were informed that their responses would remain anonymous). In addition, some participants did report that they sometimes used accusatorial interviewing behaviours. Such findings would be contrary to what one may expect if the findings were significantly distorted due to social desirability bias. It is also possible that the self-reported use of interview behaviours may not reflect investigators’ actual use of these techniques. Future research could be inspired by the present study to use other methodologies, such as interviews with offenders, analysis of electronic recordings of real-life interviews and the conduct of high-fidelity experiments. Second, the study focused on obtaining views of police investigators in Singapore and despite the relatively large sample size, it is unclear if the findings are representative of all police investigators in Singapore as participants were recruited through snowball sampling. Nevertheless, the findings are generally consistent with the currently available research literature on the importance of pre-interview planning and the effectiveness of a rapport-based interviewing approach. Also, this study examined associations between pre-interview planning, interviewing behaviours and interview outcomes. It is possible that other factors (e.g., suspect, crime and contextual factors) may have influenced the nature of interviewing behaviours and outcomes but could not be controlled in this study.

**Conclusion**

Overall, the present study has provided an empirical understanding of the association between pre-interview planning, interviewing behaviours and interview outcomes. The findings contribute to the limited research on pre-interview planning and underline the potential importance of planning in fuelling an investigative mindset (as evident from the rapport-based, information-gathering nature of interviewing behaviours adopted) and its associations with reported positive interview outcomes. The current study also reinforces previous research in cautioning against the use of interviewing behaviours associated with an accusatorial interviewing approach, given their association with negative interview outcomes. Although training is important in enhancing the practice of planning, future research could also examine if there is an optimal approach to such training, such that the effects of training are enduring and translate to positive results in actual field settings (Griffiths & Milne, 2018).

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Jeffery is a staff psychologist with the Office of Chief Psychologist, Ministry of Home Affairs Singapore. He is currently pursuing his doctoral degree with the Institute of Criminal Justice Studies at the University of Portsmouth, United Kingdom.

Data availability statement:

Data is unavailable. The organization who provided the authors access to the data for the purpose of the current study did not agree for the raw dataset to be made available publicly.

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Table 1: Means and standard deviations of self-reported interviewer behaviour as measured by a 5-point scale (1 = Hardly ever, 5 = Nearly always)

|  |  |
| --- | --- |
| Interviewer behaviour variable  | M (SD) |
| **Preparation** |
| 1. Review information
 | 4.37 (0.68) |
| 1. Develop interview plan
 | 4.00 (0.81) |
| **Interviewing practices** |  |
| 1. Clarify inconsistencies
 | 4.26 (0.63) |
| 1. Appear attentive
 | 4.14 (0.65) |
| 1. Ask open-ended questions
 | 4.06 (0.69) |
| 1. Check suspects’ understanding
 | 4.02 (0.69) |
| 1. Build rapport
 | 3.98 (0.79) |
| 1. Explain interview purpose
 | 3.93 (0.80) |
| 1. Repeat questions to check consistency of replies
 | 3.85 (0.80) |
| 1. Present role as finding the truth
 | 3.77 (0.92) |
| 1. Elicit free recall
 | 3.70 (0.86) |
| 1. Attend to basic needs
 | 3.68 (1.01) |
| 1. Offer opportunities to ask questions
 | 3.67 (0.92) |
| 1. Encourage responsibility for action
 | 3.66 (0.86) |
| 1. Tell suspect that telling the truth will make them feel better
 | 3.61 (1.02) |
| 1. Confront with evidence after suspect shared account
 | 3.60 (0.93) |
| 1. Adopt friendly approach
 | 3.53 (0.82) |
| 1. State expectation of truth at start of interview
 | 3.43 (1.09) |
| 1. Remind suspect to cooperate early
 | 3.32 (1.03) |
| 1. Offer verbal encouragement for cooperation
 | 3.30 (1.01) |
| 1. Tell everything
 | 3.24 (1.03) |
| 1. Offer sympathy
 | 3.18 (0.94) |
| 1. Mental reinstatement of context
 | 3.10 (1.00) |
| 1. Remind suspect it is pointless to continue lying
 | 3.08 (1.07) |
| 1. Remind consequences of non-cooperation
 | 3.06 (1.05) |
| 1. Appeal to sense of cooperation
 | 3.04 (1.15) |
| 1. Presenting oneself as being similar
 | 2.98 (1.11) |
| 1. Appeal to sense of right and wrong
 | 2.98 (1.10) |
| 1. Exaggerate strength of evidence
 | 2.94 (1.03) |
| 1. Tell suspect to cooperate and confess early
 | 2.81 (1.11) |
| 1. Point out other peoples’ perception if suspect continues with non-cooperation
 | 2.77 (1.04) |
| 1. Exaggerate offence seriousness
 | 2.62 (1.05) |
| 1. Offer excuses to justify offence
 | 2.49 (1.10) |
| 1. Good cop/bad cop
 | 2.47 (1.04) |
| 1. Confront with evidence before suspect gives account
 | 2.43 (1.13) |
| 1. Raise voice
 | 2.42 (0.92) |
| 1. Interrupt suspects’ denials
 | 2.41 (0.88) |
| 1. Tell suspects I would have done the same
 | 2.31 (1.20) |
| 1. Exaggerate suspects’ concerns
 | 2.30 (1.04) |
| 1. Manipulate self esteem
 | 2.19 (1.06) |
| 1. Allow suspect to control the interview
 | 2.16 (0.99) |
| 1. Express anger/frustration
 | 2.14 (0.91) |
| 1. Minimise suspects’ responsibility for their offences
 | 2.13 (0.98) |
| 1. Suggest incident happened in a certain manner
 | 2.11 (0.95) |
| 1. Downplay seriousness of offence
 | 2.08 (0.96) |
| 1. Blame others for the offence
 | 2.07 (0.97) |
| 1. Self-disclosure to build rapport
 | 2.06 (1.04) |
| 1. Forced choice questions
 | 2.03 (0.95) |
| 1. Rapid fire questioning
 | 1.97 (0.84) |
| 1. Use vulgarities
 | 1.47 (0.82) |
|  |  |
| **Positive interview outcomes** |
| 1. Share information on accomplices (where applicable)
 | 3.19 (0.76) |
| 1. Reveal other offences
 | 2.81 (0.93) |
| 1. Confess to offence
 | 3.25 (0.69) |
|  |  |
| **Negative interview outcomes** |
| 1. Remain silent
 | 1.78 (0.75) |
| 1. Retract confession
 | 2.00 (0.84) |
| 1. Allege illegal interviewing practices
 | 1.35 (0.68) |
| 1. Allege pressured to confess
 | 1.35 (0.66) |

Table 2: Factor loadings, eigenvalues and percentage of accounted variance of interviewing behaviour

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Interviewing behaviour | 1 | 2 | 3 | 4 |
| **Maximization (α = 0.84)** |  |  |  |  |
| Remind suspect to cooperate early | 0.688 |  |  |  |
| Remind consequences of non-cooperation | 0.665 |  |  |  |
| Point out other peoples’ perception if suspect continues with non-cooperation | 0.623 |  |  |  |
| Remind suspect it is pointless to continue lying | 0.581 |  |  |  |
| Appeal to sense of cooperation | 0.548 |  |  |  |
| Tell suspect to cooperate and confess early | 0.525 |  |  |  |
| Exaggerate strength of evidence | 0.510 |  |  |  |
| Appeal to sense of right and wrong | 0.487 |  |  |  |
| Exaggerate suspects’ concerns | 0.482 |  |  |  |
| Exaggerate offence seriousness | 0.434 |  |  |  |
| **Minimization (α = 0.79)** |  |  |  |  |
| Offer excuses to justify offence |  | 0.647 |  |  |
| Minimise suspects’ responsibility for their offences |  | 0.642 |  |  |
| Tell suspects I would have done the same |  | 0.64 |  |  |
| Blame others for the offence |  | 0.593 |  |  |
| Offer sympathy |  | 0.556 |  |  |
| Self-disclosure to build rapport |  | 0.538 |  |  |
| Downplay seriousness of offence |  | 0.516 |  |  |
| Allow suspects to control interview |  | 0.474 |  |  |
| Presenting oneself as being similar |  | 0.417 |  |  |
| **Rapport (α = 0.75)** |  |  |  |  |
| Explain interview purpose |  |  | 0.708 |  |
| Attend to basic needs |  |  | 0.599 |  |
| Check suspects’ understanding |  |  | 0.598 |  |
| Appear attentive |  |  | 0.557 |  |
| Clarify inconsistencies |  |  | 0.550 |  |
| Mental reinstatement of context |  |  | 0.532 |  |
| Present role as finding the truth |  |  | 0.524 |  |
| Offer opportunities to ask questions |  |  | 0.484 |  |
| Elicit free recall |  |  | 0.473 |  |
| Tell everything |  |  | 0.451 |  |
| **Intimidation (α = 0.74)** |  |  |  |  |
| Raise Voice |  |  |  | 0.685 |
| Express anger/frustration |  |  |  | 0.676 |
| Use vulgarities |  |  |  | 0.617 |
| Rapid fire questioning |  |  |  | 0.611 |
| Forced-choice questions |  |  |  | 0.488 |
| Eigenvalue | 7.29 | 3.65 | 1.77 | 1.49 |
| % of explained variance | 21.50 | 10.74 | 5.22 | 4.39 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.  |

Table 3: Results of regression models predicting interviewing behaviour usage from investigative experience, confidence, duration of interviews, and type of crime

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | B | SE | *b* | *t* | *p* |
| Preparation: *F*(8, 566) = 4.37, *p* < .001, *R*2 = 0.06 |  |  |  |  |  |
| Experience | 0.024 | 0.02 | 0.054 | 1.193 | 0.233 |
| Confidence | 0.069 | 0.021 | 0.141 | 3.331 | 0.001 |
| Duration | 0.002 | 0.001 | 0.139 | 2.929 | 0.004 |
| Type of crime  |  |  |  |  |  |
| Interpersonal | -0.15 | 0.09 | -0.085 | -1.664 | 0.097 |
| Property | -0.049 | 0.067 | -0.039 | -0.734 | 0.463 |
| Commercial | 0.029 | 0.099 | 0.015 | 0.299 | 0.765 |
| Cybercrime | -0.232 | 0.173 | -0.057 | -1.339 | 0.181 |
| Others | -0.05 | 0.129 | -0.018 | -0.39 | 0.697 |
|  |  |  |  |  |  |
| Component 1 (Maximization): *F*(8, 566) = 0.94, *p* = 0.486, *R*2 = 0.01 |  |  |  |  |  |
| Experience | -0.018 | 0.023 | -0.037 | -0.794 | 0.428 |
| Confidence | 0.03 | 0.023 | 0.057 | 1.313 | 0.19 |
| Duration | 0.002 | 0.001 | 0.086 | 1.772 | 0.077 |
| Type of crime  |  |  |  |  |  |
| Interpersonal | -0.174 | 0.1 | -0.09 | -1.732 | 0.084 |
| Property | -0.039 | 0.074 | -0.029 | -0.53 | 0.597 |
| Commercial | -0.085 | 0.11 | -0.039 | -0.778 | 0.437 |
| Cybercrime | -0.02 | 0.193 | -0.005 | -0.105 | 0.917 |
| Others | -0.209 | 0.144 | -0.068 | -1.457 | 0.146 |
|  |  |  |  |  |  |
| Component 2 (Minimization): *F*(8, 566) = 0.55, *p* = 0.817, *R*2 = 0.01 |  |  |  |  |  |
| Experience | 0.031 | 0.021 | 0.069 | 1.47 | 0.142 |
| Confidence | -0.002 | 0.021 | -0.004 | -0.089 | 0.929 |
| Duration | 0 | 0.001 | -0.018 | -0.37 | 0.711 |
| Type of crime  |  |  |  |  |  |
| Interpersonal | -0.078 | 0.093 | -0.044 | -0.84 | 0.401 |
| Property | -0.018 | 0.069 | -0.014 | -0.264 | 0.792 |
| Commercial | -0.061 | 0.102 | -0.03 | -0.593 | 0.553 |
| Cybercrime | -0.116 | 0.179 | -0.028 | -0.644 | 0.52 |
| Others | -0.191 | 0.133 | -0.067 | -1.435 | 0.152 |
|  |  |  |  |  |  |
| Component 3 (Rapport): *F*(8, 566) = 7.42, *p* < 0.001 R2 = 0.10 |  |  |  |  |  |
| Experience | 0.04 | 0.015 | 0.119 | 2.675 | 0.008 |
| Confidence | 0.042 | 0.015 | 0.115 | 2.754 | 0.006 |
| Duration | 0.002 | 0.001 | 0.149 | 3.204 | 0.001 |
| Type of crime  |  |  |  |  |  |
| Interpersonal | -0.037 | 0.066 | -0.028 | -0.555 | 0.579 |
| Property | -0.123 | 0.049 | -0.129 | -2.496 | 0.013 |
| Commercial | -0.033 | 0.073 | -0.022 | -0.453 | 0.65 |
| Cybercrime | -0.15 | 0.128 | -0.049 | -1.171 | 0.242 |
| Others | -0.088 | 0.095 | -0.042 | -0.928 | 0.354 |
|  |  |  |  |  |  |
| Component 4 (Intimidation): *F*(8, 566) = 0.81, *p* = 0.594, R2 = 0.01 |  |  |  |  |  |
| Experience | 0.009 | 0.02 | 0.019 | 0.418 | 0.676 |
| Confidence | -0.008 | 0.021 | -0.016 | -0.36 | 0.719 |
| Duration | 0.001 | 0.001 | 0.058 | 1.191 | 0.234 |
| Type of crime  |  |  |  |  |  |
| Interpersonal | -0.149 | 0.091 | -0.086 | -1.639 | 0.102 |
| Property | -0.045 | 0.067 | -0.036 | -0.664 | 0.507 |
| Commercial | -0.114 | 0.099 | -0.057 | -1.143 | 0.253 |
| Cybercrime | 0.186 | 0.175 | 0.046 | 1.062 | 0.289 |
| Others | -0.127 | 0.13 | -0.046 | -0.976 | 0.33 |

Table 4: Correlations between the main interviewing behaviour variables

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Preparation
 | 0.009 | 0.011 | .382\*\* | -0.04 | .116\*\* | 0.014 |
| 1. Maximization
 |  | .617\*\* | .171\*\* | .526\*\* | 0.028 | .098\* |
| 1. Minimization
 |  |  | .178\*\* | .451\*\* | .116\*\* | .218\*\* |
| 1. Rapport
 |  |  |  | -0.058 | .175\*\* | -0.062 |
| 1. Intimidation
 |  |  |  |  | 0.018 | .277\*\* |
| 1. Positive outcomes
 |  |  |  |  |  | -0.046 |
| 1. Negative outcomes
 |  |  |  |  |  | - |

\**p*<.05*; \*\* p*<0.1

1. For more information on the rank structure of the Singapore Police Force, please see https://www.police.gov.sg/who-we-are/rank-insignia [↑](#footnote-ref-1)
2. Video recording of statements obtained from suspects was approved by the Parliament of Singapore in 2018. This initiative (which will be introduced in phases, beginning with suspects of certain offences before eventually expanding to vulnerable witnesses in later phases) was introduced as part of the Singapore Government’s efforts at upholding an effective and objective criminal justice system (Lum, 2018). [↑](#footnote-ref-2)
3. The workshops were organized to familiarize investigators with the new requirements and procedures related to the conduct of video-recorded interviews with suspects. [↑](#footnote-ref-3)