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The Role of Interviewer Behavior in Eyewitness Suggestibility

Vanita Sondhi

Applied Psychology Department, Vivekananda College, India

Ashum Gupta

Department of Psychology, University of Delhi, India

ABSTRACT: Thirty-six participants in the age group 18-22 participated in a simulated experiment designed to examine whether social factors, more specifically the interviewer behaviour, play a significant role in the level of suggestibility observed. The study had a single factor between-subjects design. The independent variable was interviewer behaviour, which was varied such that there were three conditions: friendly, abrupt and neutral interviewer behaviour. Memory was assessed using a free recall test, forced choice recognition, and confidence ratings. The suggestibility observed in the neutral condition was significantly less as compared to that observed in the abrupt condition. Further, the greatest number of accurate details were recalled when the participants were interviewed by a neutral interviewer. The results are discussed in the context of various factors such as self-esteem, anxiety, compliance and power relations in the interviewer-interviewee relationship.

Notes: Please send correspondence concerning this article to Vanita Sondhi, E-86, Greater Kailash 1, New Delhi-110048, India, EMAIL: vanitasondhi@yahoo.com

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The Role of Interviewer Behavior in Eyewitness Suggestibility

Introduction

Although the simple passage of time can influence the likelihood that a correct recall is made, it is critical to take into consideration the events that occur between the crime and the recall. After witnessing an event, the eyewitness is repeatedly questioned by friends, relatives, police authorities, lawyers, and so on. And in the process may be exposed to a lot of intentional or unintentional misleading information.

In a classic series of experiments by Loftus (e.g., Loftus, Miller & Burns, 1978; Loftus & Palmer, 1974) it was demonstrated that participants could be led to report suggested events that were never witnessed. Using such a paradigm, Loftus et al. (1978) demonstrated that participants who saw either a "Yield" sign or a "Stop" sign and were given consistent information made less errors as compared to another group who saw the same signs but were given inconsistent information. The study clearly demonstrated that exposure to misleading post event information affected the individual's memory of the witnessed event. Such effects are often referred to as "suggestibility effects."

A number of explanations have been hypothesized for such effects. Most of the literature, however, concerns itself with cognitive rather than social factors. Whereas it is widely agreed among researchers that alteration (Loftus, 1979), coexistence (Christiaansen & Ochalek, 1983), gap filling (McCloskey & Zaragossa, 1985), source confusions (Johnson, 1991) together with many other factors may result in suggestibility, only very few studies have focused on social factors (especially with the adult population).

One of the most important social factors affecting the suggestibility effects may be the interviewer-interviewee relationship. In an interview, the listener tries to go beyond the direct meaning and tries to find out the intent of the speaker's utterances. This intent, however, is at least partly dependent on the social conventions and context of the interview. These social conventions include the "principle of co-operativity" (Grice, 1975) which states that listeners interpret speakers' utterances as true, relevant, and clear. Social relationships, perceived motivations, beliefs of the participants, contextual variables, and the actual setting of the conversation may all influence the understanding of the intended meaning of the utterances. When witnesses are interviewed by authority figures such as the police, they may perceive the police official as being co-operative, truthful, and not deceptive. Thus, any misleading information supplied by the police official may inadvertently be accepted as factual and become a part of the witnessed memory. In his pioneering work with adult eyewitnesses, Gudjonsson (1992) has noted that authority may result in compliance and that compliance may be related to an eagerness to please and/or to a desire to avoid conflict.

Recent research suggests that providing people with information invalidating the source of postevent information leads them to discard the conversational assumption of truthfulness and elude the influence of misleading postevent misinformation to a larger degree than people not given such invalidating information (Echterhoff, 2001). Other studies (Porter, Birt, Yuille, & Lehman, 2000) have examined the hypothesis that memory distortion is related to characteristics of interviewers and rememberers. Porter et al. concluded that susceptibility to memory distortion is associated with higher extraversion scores in interviewers and lower extraversion scores in participants. Additionally, they stated that false memories may derive from a social negotiation between particular interviewers and rememberers.

Psychological distance between an interviewer and the interviewee may create a certain pressure that makes the interviewee more susceptible to suggestion (Gudjonsson & MacKeith, 1982; Irving, 1980). Bain and Baxter (2000) examined the effects of two interviewer styles, that is, friendly and abrupt, on measures of interrogative suggestibility using the Gudjonsson Suggestibility Scales. Participants tested in the abrupt condition gained higher scores for Shift and Total Suggestibility than those in the friendly condition. In another study, Baxter, Jackson, and Bain (2003) assessed the impact of variations in interviewer manner on scores obtained on the Gudjonsson Suggestibility Scales (Gudjonsson, 1984) from participants with high and low levels of self-esteem. Results showed high levels of self-esteem were associated with reduced suggestibility and low levels associated with increased esteem suggestibility. In yet another study, Gudjonsson and Lister (1984) found that the perception of distance between the participant and the experimenter was highly correlated with suggestibility. Bain, Baxter, and Fellowes (2004) found that overall demeanour of the interviewer, warnings about the presence of misleading information, and the self-esteem of the interviewee affected levels of interrogative suggestibility, but further suggested that “optimal interviewer support for interviewees' discrepancy detection may be provided either by a relaxed interviewer manner or by warnings alone, but not by both.” (p. 239).

A number of studies have examined the possible effects of interviewer status on children's accounts of the event. Some indicate that interviewer status does influence the recall of children (e.g., Ceci, Ross & Toglia, 1987; Goodman, Sharma, Thomas & Considine, 1996; Tobey & Goodman, 1992) while other studies indicate no such effects (e.g., Westcott & Davies, 1996). Still other studies indicate that the provision of social support in the form of smiles and verbal encouragements given by the interviewer to the children may reduce incorrect recall (Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991). Ceci and Bruck (1995) believe that power differential may be one of the most important causes of children's suggestibility. If children's accounts are questioned then they may defer to the challenges of the more senior interviewer.

More recently, a few studies have directly examined whether interviewer authority directly affects children. Ricci, Pacifico, and Katz (1997) reported that 5-year-olds interviewed in an authoritative and professional atmosphere changed

their answers to repeated questions as compared to children being interviewed in a friendly atmosphere. Templeton and Hunt (1997) also reported that children answered more questions correctly when interviewed by a low authority interviewer than when interviewed by a high authority interviewer. Lepore and SESCO (1984) found that in comparison with neutral-interview children, incriminating-interview children made more cued recall errors and endorsed more biased interpretations of a teaching assistant's actions. Other studies have found that a supportive interviewer style increases resistance to misleading suggestions as compared to an intimidating interviewer style; the former may lead children to feel less anxious, more empowered, and, in turn, less intimidated by the interviewer (i.e., Carter, Bottoms & Levine, 1996; Davis & Bottoms, 2002). Saywitz, Geiselman, and Bornstein (1992) found that children who were engaged in the most rapport-building events before an interview produced the fewest accurate details, but also the fewest inaccurate details, whereas children interviewed by condescending detectives (who purported to have little faith in children's answers), produced more accurate statements, but also more inaccurate statements, than children interviewed by unenthusiastic detectives. Other studies, however, have found no such positive effects of interviewer style (i.e., Imhoff & Bakerward, 1999; Quas, Eisen & Rivers, 2000).

The aforementioned studies indicate that interviewer style may moderate the effects of suggestibility to some extent. However, a large number of reported studies have been based on children as eyewitnesses (e.g., Ceci, Ross, & Toglia, 1987) and very few on adults (e.g., Bain and Baxter, 2000). These factors, however, may operate in different ways in adults and, therefore, one should be alert to the possibility that studies done on children and those done on adults may not be directly contrasted.

Although a few studies have assessed the effects of interviewer behaviour on suggestibility, the results are not unidirectional. This may be the result of a number of factors, one of the most important being the use of different paradigms. Earlier research on interviewer styles is based on the use of certain scales (e.g., Gudjonsson Suggestibility Scale) or structured/unstructured interviews. It was of interest to know whether research using a different paradigm would produce similar results. The present research combined the Standard Loftus Paradigm with the structured interview, in an attempt to obtain better control over variables. Moreover, the few studies reviewed above (e.g., Bain and Baxter, 2000) do not explore whether neutral interviewing could reduce the effects of suggestibility. This would throw additional light on the operation of demand characteristics in an interview setting. The main objective of the present study was, therefore, to explore whether social factors, and more specifically the interviewer behaviour (i.e., neutral, friendly, and abrupt), play a significant role in the level of suggestibility observed. The issue is of both theoretical as well as practical significance. If suggestibility is due to certain social factors such as interviewer behaviour, then it may be possible to identify these factors and minimize suggestibility.

Interviewer behaviour may not only affect the levels of suggestibility observed, but also influence the confidence with which eyewitnesses report information. The present study also attempted to explore whether the confidence expressed by the participants would vary across the three conditions. It is possible that a friendly interviewer may induce a false sense of success in the witness leading to an inflated feeling of confidence. Eyewitness confidence has been of particular importance to eyewitness researchers in the last few years. Several studies have shown that an eyewitness's expressed confidence strongly affects how people perceive the credibility of the eyewitness under cross-examination (e.g., Wells, Lindsay, & Ferguson, 1979; Wells, Ferguson, & Lindsay, 1981). An eyewitness's confidence is likely to affect the investigation at even earlier points. If eyewitnesses show little confidence in the strength of their memories, then the police may no longer consider it worthwhile to investigate the eyewitness further. The present study, therefore, attempted to explore the effects of interviewer behaviour on the confidence levels expressed by the participants in the accuracy of their memory reports.

Method

Design

The study was a single factor between-subjects design. The independent variable was interviewer behaviour, which was varied such that there were three conditions: 'friendly', 'abrupt' and 'neutral' interviewer behaviour. Memory was assessed using a free recall test, forced choice recognition, and confidence ratings.

Participants

The participants were female college students in the age group 18-22 years ($M = 19.75$, $SD = 1.42$) residing in Delhi and adjoining areas. A total of 36 participants took part in the study. In each condition 12 participants were tested. The participants were not informed prior to the event that they would witness an event which they would have to recall later.

Materials

Event setting. The study involved simulation of a live event (adapted from Ochsner, Zaragoza, & Mitchell, 1999) that the participants witnessed. However, certain changes (related to name and dress) were made in the event in order to make the event relevant to the Indian culture. The event was well rehearsed. A pilot study ($N=18$) was carried out to identify any problems that might be encountered during the final study.

The final study involved a brief live event of about 20s, in which an 18-year-old female entered the classroom, allegedly looking for the teacher. The event contained six critical details about which the participants were later tested. Across the experiment two versions of the critical details were used. A large number of

studies (e.g., Loftus, Miller, & Burns, 1978; McCloskey & Zaragoza, 1985) use two versions of the event to establish that the event and the postevent misinformation are equally scripted or expected. Half the participants witnessed one version while the other half witnessed the other version. The pilot study carried out earlier indicated no difference between the two versions. The critical details related to attire (i.e., type and colour), person identification (i.e., name), belongings (i.e., pen/pencil, newspaper/magazine), and actions (i.e., what she did or say). The critical details and the two versions of each were:

1. Salwar kameez (or jeans) that the confederate was wearing
2. A newspaper (or a magazine) that the confederate was carrying.
3. Tea (or soft drink) that she wanted to buy.
4. She identified herself as Shilpa Kapur (or Shilpa Mehta).
5. Pen or (pencil) that she dropped.
6. Blue (or pink sweater) that she was wearing.

Procedure

Six interviewers (all females) were trained for all three conditions (neutral, friendly, and abrupt). The interviewers questioned an equal number of witnesses (i.e., six each, two in each condition). The training of the interviewers took place over a week in separate sessions. The training began with a lecture that emphasized the importance of interviews as tools in psychological assessment. The lecture was followed by discussions about non-verbal behaviour in the interview (e.g., body posture, eye contact, pauses and speech rate). For each phase of the experiment (see below) there was a demonstration role-play, which was followed by a live, practice role-play. The interviewers then received feedback on their interviews and this was followed by discussions and questions. The interviewers were also encouraged to rehearse mentally the various phases of the interview.

In the friendly condition, interviewers practiced the rapport-building phase. Open ended questions, such as those involving interests or hobbies were asked to make the participants feel comfortable and at ease. The interviewers were then trained to behave in a friendly demeanor. This involved smiling as often as possible, responding in a friendly manner to any conversation initiated by the participant prior to testing, and maintaining this manner in explaining the procedure to the participants. They were also trained in exhibiting a body language associated with a friendly demeanor (e.g., a body position of leaning back, away from the table and the participant, maintaining eye contact).

In the abrupt condition, no attempt was made to build a rapport or be friendly prior to asking the questions. The interviewers were trained to behave in an abrupt manner. This involved issuing instructions in a rough and impolite manner. Interviewers were also trained to exhibit a body language consistent with their abrupt behaviour (no smiling, not making any facial response to anything the participant said, expression which conveyed mild annoyance, a body position

of leaning forward across the table towards the participant, eye contact, and so on).

In the neutral condition, the interviewers were trained to maintain a business-like attitude through out the experiment. They were trained to build a small rapport so that the participants felt at ease, but without communicating a sense of being friendly. Any questions that were asked by the participants were to be answered politely without being unduly friendly or communicating any annoyance. The interviewers were trained not to smile frequently but to have a neutral attitude throughout the experiment. Again the importance of maintaining eye contact was emphasized.

Pilot work, in which a panel of five judges answered a questionnaire, confirmed that the demeanor of the interviewers was appropriate to the specific condition. That is, they recognized that interviewer behaviour in the friendly condition was friendly, that in the abrupt condition was rough and impolite, and that in the neutral condition was business-like and neutral.

The participants were taken to an empty classroom, in groups of six. Apart from interviewer manner, every other aspect of the three conditions remained the same. The experimental procedure consisted of six phases: (1) filler activity, (2) eyewitness event, (3) free recall, (4) exposure to misinformation, (5) filler activity, and (6) final test. Each phase is described in brief below:

Phase 1. Filler Activity:

The experimenter introduced herself as the teacher. After about 30 seconds (indicated by a cue from outside), the experimenter left the room, leaving behind her purse on a chair, on the pretext of getting some material. This was followed by the filler activity (approx. time limit-2 min).

Phase 2. Eyewitness Event:

Two versions of the event were enacted (adapted from Ochsner et al., 1999), differing only in the version of the critical item presented. The simulated event lasted for 20 seconds. The event had six critical details about which the participants were later tested. The witnessed event began when the female confederate (wearing pink/blue sweater and jeans/salwar kameez) entered the room and said in a friendly voice, "Hello. My name is Shilpa Mehta (or Shilpa Kapur) and I am looking for your teacher." Glancing around she adds, "I see she is not here. She was supposed to be here." She then dropped her pencil (or pen), put down her magazine (or newspaper) on a chair beside her, retrieved her pencil (or pen) and put it in her pocket. As she picked up the magazine (or newspaper) she commented, "I sure am very clumsy today. Maybe if I have a soft drink (or tea) I'll feel more energetic." Fifteen seconds after the confederate entered the room, the

experimenter signaled by a knock that it was time to pick up the purse. This kept the length to a constant 20 seconds. She then picked up the purse and left. The experimenter immediately reappeared and, if the witnesses did not point to the theft, asked what the individual wanted. The experimenter then informed the witnesses that it was a staged event and that they would be questioned about it. The experimenter then left the room.

Phase 3. **Free recall:**

Six interviewers who had been well trained then entered the room and led the six participants to separate tables. The interviewers changed their demeanor, depending upon the experimental condition, as has been described earlier. After taking the spontaneous responses, four probe questions were asked (adapted from Ochsner et al., 1999):

What did the girl do?
Did she do any thing else?
What did the girl look like?
Can you remember anything else?

Pre-recall and post-recall confidence measures on a 5-point Likert type scale were also taken, with the end points labeled as “just guessing” to “totally sure”. Each rating point had the verbal descriptions written below. Pre-recall confidence was the confidence in the ability to provide accurate information about the event prior to giving the responses while post-event confidence was the confidence in the ability to provide accurate information about the event after giving the responses.

Phase 4. **Misleading post-event questioning**

Each participant was asked 14 yes/no questions (adapted from Ochsner et al., 1999) about the event, some of which contained misinformation. Across the experiment there were six misleading suggestions, although each participant was exposed to only three of these and the remaining three served as never-presented control items on the test. Thus, for each participant, three of the 14 questions were misleading; three questions served as control or neutral questions, while eight of the 14 questions were fillers and were the same for all the participants. Misleading postevent questions presupposed some false information about the event (i.e., the critical item). These questions involved an object change to a related object (e.g., pink sweater to blue sweater). They included items that, although not present in the original event, were highly plausible within the context of the event (i.e., they were schema consistent). The misinformation was presented as an accurate description of the witnessed event that was encountered in the context of the post event

task (i.e., the postevent questions). Neutral (control) questions contained only neutral information (no misinformation) about the critical item while filler questions were unrelated to the critical items. (Reference: Appendix A for the list of questions.) The style of asking the questions varied according to the experimental condition.

Phase 5. Filler activity:

A filler activity for 10 minutes was then given to all the participants.

Phase 6. Final test questions:

The final test of six questions, designed to assess the eyewitness suggestibility on the critical items, was administered. Participants were instructed to answer the questions on the basis of what they remembered seeing in the original event. Each test question was a two-alternative, forced choice between the critical item originally seen and the item that had been presented as misleading information to the participants who had been misled about it. All six questions were asked to all the participants. Thus, whether a particular question was misleading or a control question depended on whether or not the participant had received misleading information about it. In this phase, too, the style of asking the questions varied according to the experimental condition.

After the completion of the six phases of the experiment, the participants were required to respond to a 5-point Likert type rating scale. The scale required the participants to rate the interviewer on various aspects of the interviewer's behaviour. A different experimenter than the one who was actually asking the questions took these ratings. The adjectives on which ratings were obtained were: nervous, rough, friendly, understanding, assertive, confident, professional, firm, respectful, positive, formal, warm, strict and rude. The adjectives were chosen on the basis of three criteria: 1) they should be representative and relevant to the three conditions, 2) they should cover to some extent the semantic space, and 3) review of past literature. The Bain and Baxter (2000) study also used a similar methodology of obtaining ratings on the various aspects of the interviewer's manner.

Finally, the participants were debriefed and were thanked for their participation. The participants in the abrupt condition were told that the interviewer's behaviour was a necessary part of the experiment. An introspective report was also taken from them before they left.

Results

A preliminary analysis conducted on the two versions of the event, to examine whether the items in one version were more scripted than the items presented in the other version, indicated no significant differences between the two versions. It

was, therefore, considered appropriate that the data be collapsed across the two versions for all subsequent analyses.

The ratings obtained on interviewer behaviour indicated that attempts to manipulate interviewer behaviour were successful (see Table 1). In the friendly condition the interviewer was rated as friendly, understanding, and warm, while in the abrupt condition the interviewer was rated as rough, firm, and rude. In the neutral condition average ratings were obtained on friendly, understanding, firm and formal.

Table 1. Interviewer behavior ratings (on a 5-point scale) obtained under various conditions.

	Neutral (n=12)		Friendly (n=12)		Abrupt (n=12)		F (2, 23)	η^2
	Mean	SD	Mean	SD	Mean	SD		
Nervous	1.25	0.45	1.16	0.39	1.25	0.45	<1	0.01
Rough	2.54 ^a	0.52	1.92 ^b	0.64	3.67 ^c	0.06	25.89**	0.61
Friendly	3.00 ^a	0.73	4.25 ^b	0.62	2.00 ^c	0.60	35.31**	0.68
Understanding	3.00 ^a	0.63	3.92 ^b	0.64	1.83 ^c	0.57	35.78**	0.68
Assertive	3.08	0.52	2.75	0.62	3.00	0.60	1.07	0.06
Confident	4.25	0.62	4.25	0.45	4.50	0.52	<1	0.05
Professional	4.42	0.51	4.17	0.71	3.83	0.58	2.80	0.14
Firm	3.27 ^a	0.47	3.54 ^{ab}	0.52	3.90 ^b	0.79	3.24*	0.16
Respectful	4.50 ^a	0.52	4.75 ^a	0.45	3.36 ^b	0.50	25.40**	0.60
Positive	3.42 ^a	0.51	3.42 ^a	0.52	2.83 ^b	0.72	3.91*	0.19
Formal	3.25	0.62	2.75	0.45	3.25	0.45	3.77*	0.19
Warm	2.91 ^{ab}	0.70	3.46 ^b	0.66	2.42 ^a	0.51	8.63**	0.34
Strict	3.17	0.83	2.75	0.75	2.92	0.67	<1	0.05
Rude	2.33 ^a	0.49	1.33 ^b	0.49	4.00 ^c	0.85	53.90**	0.77

Note. Superscript letters indicate significant differences: if means within a row are labeled with different superscripts, they are significantly different ($*p < .05$, $**p < .01$); and if they share superscripts, they do not differ. No superscript indicates pair wise comparisons were not conducted.

Suggestibility Within Each Condition

Table 2 presents the means and standard deviations of correct responses for the three conditions, that is, ‘neutral’, ‘friendly’ and ‘abrupt’. A significant difference between misleading and control items was found for all the three conditions, that is, ‘neutral’ $t(11)=2.24$, $p < .05$; Cohen’s $d = 0.54$), ‘friendly’ $t(11)=5.75$, $p < .01$; Cohen’s $d = 1.27$), and ‘abrupt’ $t(11)=6.97$, $p < .01$; Cohen’s $d = 2.52$). A measure of the effect size as calculated by Cohen’s d , indicates that the effect size for the ‘neutral’ condition can be considered as moderate, while that for the ‘friendly’, and ‘abrupt’ condition can be considered as large (Cohen, 1988). The estimates of the effect size are therefore in the same direction as the significant results. The results indicate that the performance of the participants was poorer on the misleading items as compared to control items, indicating a suggestibility effect within each condition.

Table 2. Mean number of correct responses (and standard deviations) by question type and condition

Condition (n=12)	Question Type		t (11)
	Misleading	Control	
Neutral	1.58 (0.67)	2.17 (0.83)	2.24*
Friendly	1.67 (0.65)	2.41 (0.51)	5.75**
Abrupt	1.42 (0.51)	2.67 (0.49)	6.97**

* $p < .05$ ** $p < .01$

Suggestibility Across Conditions

The focus in the present study, however, was on suggestibility across the three interviewer style conditions. Means and standard deviations for those three conditions are presented in Table 3. Tests of three a priori hypotheses were conducted on the obtained means. Results indicated that the mean difference was signif-

Table 3. Mean difference (between number of correct responses for control & misleading items) and standard deviations for different conditions.

Condition (n=12)	Mean Difference	SD
Neutral	0.58	0.90
Friendly	0.75	0.45
Abrupt	1.25	0.62

icantly higher in the abrupt condition ($M = 1.25$, $SD = 0.62$) than that in the 'neutral' condition ($M = 0.58$, $SD = 0.90$), $t(33) = 2.39$, $p < .05$. The pairwise comparison of the friendly condition with the abrupt and neutral conditions was nonsignificant.

Confidence Ratings

Table 4 presents the means and standard deviations for the pre-recall confidence ratings obtained during the free recall phase. A one-way ANOVA conducted on the three means revealed a significant difference [$F(2,33) = 3.23$, $p < .05$]. Tukey's tests revealed no significant differences either between the neutral and friendly conditions or between the neutral and abrupt conditions. However, a significant difference between the friendly and abrupt condition was found at the .05 level, with the mean confidence rating being higher for the friendly condition ($M = 3.08$, $SD = 0.67$) as compared to the abrupt condition ($M = 2.42$, $SD = 0.67$).

Table 4. Pre-recall confidence ratings* obtained in the various conditions.

Condition (n=12)	Pre-Recall Confidence	
	Mean	SD
Neutral	2.91	0.67
Friendly	3.08	0.67
Abrupt	2.42	0.67

*Confidence Ratings were obtained on a 5-point scale with '1' indicating 'just guessing', while '5' indicating 'totally sure'.

The results (see Table 4) indicate that interviewer style may not only have affected the level of suggestibility observed but also, at least to some extent, the pre-recall confidence expressed by the participants in the accuracy of their memory report. A similar analysis on the post-recall confidence ratings obtained during the free recall phase revealed no significant differences..

Accuracy (in free recall)

In the free recall phase the participants were required to spontaneously recall information about the event they had witnessed. Although the participants recollected much more information besides the critical items, the analysis here deals only with the critical items. Table 5 presents the mean number of times (and standard deviations) the six critical items were mentioned correctly, mentioned incorrectly and not mentioned in the three conditions. The analysis of not

mentioned items is given separately and not included in the incorrect responses, as in the forensic setting the individual is responsible for what he recollects and not for what he does not recollect. Three a priori tests were conducted on each of the three measures of accuracy (i.e., mentioned correctly, mentioned incorrectly and not mentioned items). The a priori tests for the mentioned correctly items indicate that the mean in the neutral condition ($M = 3.45$, $SD = 0.82$) was significantly higher than those in both the abrupt condition [$M = 2.08$, $SD = 1.08$, $t(33) = 3.15$, $p < .01$] and in the friendly condition [$M = 2.46$, $SD = 1.33$, $t(33) = 2.38$, $p < .05$]. However, no significant difference was found between the friendly and abrupt conditions. A similar analysis conducted on the other measures of accuracy (i.e., mentioned incorrectly and not mentioned items) indicated no significant differences.

Table 5. Means (and standard deviations) for the three conditions.

	Neutral	Friendly	Abrupt
Mentioned correctly	3.45 (0.82)	2.46 (1.33)	2.08 (1.08)
Mentioned incorrectly	0.75 (0.86)	1.45 (1.21)	1.46 (0.77)
Not mentioned	1.58 (1.24)	2.08 (1.44)	2.25 (1.05)

Discussion

Eyewitness testimony plays one of the main roles of supporting evidence in most trials. In the event that physical evidence is not submitted, an eyewitness can serve as one of the most critical pieces of evidence for a trial. However, the accuracy of eyewitness memory is influenced by a large number of factors, and this may at times lead to a possible wrong conviction. It is not surprising then that eyewitness memory has been the focus of many recent studies, especially in Europe and the United States. In the Indian context, Nanda and Tiwari (2001) note that the quality and efficiency of witnesses have, more or less, disappeared and trials have become farcical. Thus, the study of factors influencing eyewitness accuracy becomes especially important in the Indian context. One such factor influencing eyewitness memory, that is, interviewer behaviour, was the focus of the present study.

The results of the present study showed that the performance of the participants was poorer on the misleading items as compared to control items, indicating a suggestibility effect within each condition. However, the interest in the present study was on suggestibility across the three interviewer style conditions. In the present study, it made no difference on the suggestibility levels whether the interviewer style was friendly or whether it was neutral, although in both conditions suggestibility was observed. Similarly it made no difference whether the

interviewer style was friendly or abrupt even though the suggestibility effect was observed within these conditions. The latter results are contrary to those reported by Bain and Baxter (2000) who observed that a generally abrupt demeanor adopted by the interviewer produced greater psychological distance, and therefore higher suggestibility scores, than a friendly demeanor. However, the results may not be directly comparable due to differences in paradigm and sample characteristics.

However, the suggestibility observed in the neutral condition was significantly less as compared to the abrupt condition. The abrupt demeanor of the interviewer may lead the participants to perceive a lack of power and control in the interviewer-interviewee relationship that could increase compliance with the perceived demands of the interviewer. Due to the imbalance of power and the expectations that are implicit within the interviewer/respondent format, the respondent may not presume the right to correct the interviewer. The interview setting may thus contain demand characteristics to go along with the interviewer and to give a response even when unsure. It is possible, therefore, that as compared to the neutral condition, in the abrupt condition the participants were more biased by the interviewer behaviour causing them to attend to external cues at the expense of internal cues.

Another possibility that has been suggested by Gudjonsson (1992) as well as Bain and Baxter (2000) relates to self-esteem and anxiety. It may have been possible that the abrupt interviewer may lead to a reduction in the participant's self-esteem (at least temporarily) and may then lead to increased feelings of anxiety. Bain, Baxter, and Fellowes (2004) found that among other factors, self-esteem of the interviewee affected levels of interrogative suggestibility. They further suggested that suggestibility effects might be reduced either by a relaxed interviewer manner or by warnings alone, but not by both.

The above factors may play an important role in various stages and to various degrees both within and between participants (Gudjonsson, 1992). Individual differences in suggestibility may also affect the manner in which certain variables operate, with some interviewees being more sensitive to variations in interviewer behaviour.

The pre-recall confidence was found to be higher in the friendly condition as compared to the abrupt condition. Feelings of anxiety, decreased self-esteem, lack of perceived power in the interviewer-interviewee relationship, and other such factors may have all contributed to a decreased confidence in the abrupt condition. However, the same analysis carried out on post-recall confidence ratings indicated no significant difference. This seems to indicate that interviewer style may affect the pre-recall confidence much more as compared to post-recall confidence. Cutler and Penrod (1989) have suggested that perhaps participants base pre- and post-lineup confidence judgments on different information, and that pre-lineup confidence judgments may become more distorted relative to the post-lineup confidence judgments.

Further, the greatest number of accurate details were recalled when the participants were interviewed by a neutral interviewer. Also, the interviewer style did not affect either the number of inaccurate details recalled or the number of items that were not recalled. This seems to indicate that accuracy, at least to some extent, is influenced by interviewer behaviour. A few studies that have investigated the effects of interviewer style on accuracy (e.g., Saywitz et al., 1992) have found contrary results. For example, Saywitz et al. indicated that children who were engaged in the most rapport-building events before the interview produced the fewest errors, while children questioned by unenthusiastic, neutral interviewers produced the fewest accurate details but also the fewest inaccurate details. Finally, those interviewed by positive interviewers produced the most accurate details, however, they also produced as many incorrect details as children interviewed by condescending interviewers. Still other studies indicate that the provision of social support in the form of smiles and verbal encouragements given by the interviewer to the children may reduce incorrect recall (Goodman, Bottoms, Schwartz-Kenney, & Rudy, L., 1991). Although these studies may overlap to some extent, it is difficult to compare results directly. Even subtle changes in the interviewing styles may produce different results. Other sample characteristics also differ considerably with respect to the present study.

It is possible that both in the abrupt condition as well as the friendly condition, the participants might not have applied the most effective strategy known to them. According to the social-motivational framework (Paris, 1988) in the abrupt condition, where the environment is perceived to be unsupportive, participants may choose less effective but familiar and well-practiced strategies because they are easier to implement and are associated with a low risk of failure. Within this framework, transient emotional states can be induced by the individual's perception of the environment and their appraisal of their ability to cope with the situation. For example, anxiety can be aroused when individuals perceive the situation as threatening relative to their perception of their own ability to succeed and to overcome their fears. High levels of anxiety could divert attentional resources and may even disorganize operations. Further a low self-esteem that may be the temporary result of the abrupt interviewer behaviour could distort the value and utility of a strategy choice or the probability of a particular outcome. A low self-esteem, for example, may increase the perceived probability of memory failure and decrease the perceived value of success, reducing effort and motivation. Similarly, in the friendly condition, the most effective strategy may not have been chosen by the participants because of a false feeling of success induced as a result of friendly interviewer behaviour. Thus, the participants may not have been motivated enough to search for more effective strategies as a result of the interviewer behaviour.

In sum, the above discussion seems to indicate that expectations, emotions, and the general environment may all act as mediators of the discrepancy between memory capability and memory performance. Traditional theories of memory have failed to address these issues, focusing primarily on the development of strategies, meta-cognition and the knowledge base (Saywitz, 1995). Recent theories of

motivated remembering (Paris, 1988), however, emphasize that deliberate attempts to remember are determined by the general environment (physical, social, as well as emotional) that may in turn influence the selection of a response strategy and the belief that it will produce a specific outcome.

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Appendix A: Objective Questions

MISLEADING QUESTIONS:

1. Did the girl wearing salwar kameez (or jeans) have short hair? (Assuming the girl was wearing Jeans in the first version)?
2. Did the girl put the newspaper (magazine) on that chair.
3. Did the girl who wanted to have a tea (soft drink), say she would be going to the canteen?
4. Was Shilpa Kapur (Mehta) looking for the principal?
5. Did she put the pen (pencil) in her pocket?
6. Did the girl with the blue sweater (pink sweater) wear glasses?

NEUTRAL/ CONTROL QUESTIONS (Across experiment 6 neutral questions will be there but each participant will be exposed to only 3 questions):

1. Did the girl have short hair?
2. Did she put something on that chair?
3. Was the girl going to the canteen?
4. Was the girl looking for the principal?
5. Did she put anything in her pocket?
6. Did the girl wear glasses?

FILLER QUESTIONS:

1. Was the girl very young?
2. Was she a tall girl?
3. Was the girl's hair curly?
4. Did she knock before she came in?
5. Did she touch anyone?
6. Was the girl wearing any jewellery?
7. Did she wear shoes?
8. Did the girl wear any lipstick?

FINAL TEST QUESTIONS:

1. Was the girl wearing Salwar Kameez or Jeans.
2. Was she carrying a newspaper or a magazine?
3. Did the girl say she wanted to have tea or a soft drink?
4. Did the girl say her name was Shilpa Kapur or Shilpa Mehta?
5. Did she have a pen or a pencil?
6. Was the girl wearing a blue sweater or a pink sweater?

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