

## Assessing Interrogative Suggestibility, an adaptation of Gudjonsson Suggestibility Scale (GSS): Gender Difference in witnessing an event

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### Abstract

*Interrogative suggestibility refers to the tendency of individuals to accept suggestive information in an interrogative context. Gudjonsson and Clark (1986) have developed a theoretical model of suggestibility, and contend that suggestibility is mediated by an individual's cognitive abilities, mental state and personality characteristics. In particular, they emphasize the role of coping strategies, positing that active/problem-focused coping strategies lead to greater resistance to suggestive information whilst avoidant/emotion-focused strategies lead to increased susceptibility to accepting suggestive information. The current study explores the effect of interrogative suggestibility among the males and females towards recalling witnessed events and their susceptibility to the interrogative suggestibility. A total of 120 participants (60 males and 60 females) selected randomly, from University of Sindh, Pakistan, were shown a 5-minute video-clip in groups of 5-7 students. A pre-prepared set of questions was developed to interview the subjects individually. Mean scores, co-efficient of correlation and t-test was computed to confirm the hypothesis. Individual differences on Total Suggestibility Score (TSS), shift and yield responses were observed. It was found that female eyewitnesses were more susceptible to the misleading and forced-choice questions than the male.*

### 1. Introduction

Interrogative suggestibility concerns the private acceptance of suggestions and can be a serious psychological vulnerability during police interview (Gudjonsson, 2003). It can manifest during interview in two ways (Gudjonsson, 1992; 2003): (i) The acceptance of inaccurate information; and (ii) sensitivity to interrogative pressure from the interviewer. Understanding why certain individuals are more prone to making false statements during questioning, which may be the basis of a subsequent wrongful conviction, is important within the applied forensic setting.

There is now official acknowledgement that the witness evidence is of crucial importance of police investigations and the prosecution of offenders (Bull 1999; Bull & Milne 2002). Increasingly, therefore, at least in the European countries, criminal justice system personnel are seeking advice from psychologists in particular, to help witnesses in providing information that is more comprehensive and complete and avoid the factors that are contributing in the incorrect recall of the witnessed information. Reliability of the witness is dependent upon his capacity to provide the accurate and complete information. In this context, capacity is likely to reflect the interaction of a number of factors. These include the alleged offence (Kebbell, & Wagstaff 1992) personal characteristics relating to the witness (such as his or her cognitive functioning, personality, and mental state etc. Clare, & Gudjonsson 1993), and strategies used by the police and other criminal justice personnel to elicit information (Bull 1999).

As a consequence of inappropriate interviewing, vulnerable interviewees can sometimes produce unreliable testimony and/or information during police interview (Bull & Milne, 2004; Gudjonsson, 2003). It must be made clear though that this vulnerability is only likely to manifest in conjunction with a substandard interview.

Our perception in inaccurate and incomplete and may be distorted by our need, fears, values, attitudes, and prejudices. Memory is one of the other aspect of human functioning that influences eyewitness credibility. What we recall or remember of an event we have witnessed can strongly subject to error as what we perceived in the first place. Our memories are subjective and selective, influenced by our needs, fears, values, and prejudices (Schacter 2001). The accuracy of memory is also affected by the length of time that elapsed between witnessing an event and the attempt to recall it.

Among the personal characteristics that have been identified as being of potential relevance to witnesses' capacity to provide accurate, reliable, and complete information, the 'interrogative suggestibility' has been of particular theoretical and practical importance (Gudjonsson 1992). Interrogative suggestibility has been defined by Gudjonsson and Clark (1986) as, 'the extent to which, within a closed social interaction, people come to accept messages communicated during formal questioning, as a result of which their subsequent behavioral response is affected' (p.84).

The process of observing and recalling faces is a complex, interactive and dynamic one. Eyewitness is of crucial importance for both crime investigators and lawyers. Not surprisingly, therefore, within the psycho-legal field, testimony, especially eyewitness testimony, has attracted a lot of attention over the years. It has been argued (e.g. Kebbell, Milne & Wagstaff, 1999) that to be credible, a witness must be willing and able to provide information that is accurate, reliable, and complete. "Willingness" here refers to the witness's motivation to report the truth, whilst "ability", which is the focus of interest here, refers to the recall and recount of accurately the event in question.

When one is presented with misleading information about something that he or she just witnessed; the participant is likely to mix up the real evidence with the misleading information. This is known as the misinformation effect. People are especially apt to be influenced when there is a large period of time between when the actual event happens and when the misinformation is given. Several researches have also shown that even when subjects receive correct information, after misinformation, they continue to give incorrect response. The debate about why misinformation effect occurs relates to a fundamental issue about human memory-whether or not memory traces are permanently stored.

Gudjonsson studied interrogative suggestibility, the tendency to "change claims about the past in response to misleading information and suggestive questions (Schacter, 2001). Gudjonsson studied people who had confessed to a crime but later retracted that confession. When tested for their susceptibility to suggestion, these "confessors" were found to be influenced by suggestive questions more readily than "deniers" who, despite forensic evidence against them, refused to acknowledge any involvement in a crime (Schacter, 2001). When given standard clinical tests of memory performance, the two groups did not differ, ruling out any difference in overall memory ability (Schacter, 2001).

There are several factors to consider, which when present will influence someone being more suggestible than if they were not present. First, the strength of one's memory will have an influence on whether or not a person will accept misinformation. Secondly, if no warnings are given of misleading information being present then the strength of the misinformation effect increases. Also, if the information being presented is clearly false to the individual, then openness to suggestible influences will not be as strong then if this information was subtly misleading.

#### ***Gender Differences in Interrogative suggestibility***

Another area of research concerning suggestibility is whether individual differences exist. First a person's intelligence has an effect on whether he or she is suggestible to interrogative situations. Those with an average or above level of intelligence and cognitive ability will most likely be able to assess whether information may be misleading (Boon & Baxter, 2000). Also, those with low competence esteem, which is seen as low effectiveness in achievement situations, are susceptible to suggestive questioning and negative feedback from interrogators because they may doubt their own opinions, thus believing the misleading information to be more reliable source (Peiffer & Trull, 2000).

Very little research has examined gender differences in interrogative suggestibility with either adult or adolescent populations (Calicchia & Santostefano, 2004). Further, the little research on gender differences in suggestibility has yielded mixed results. In an adult population, females were found to be less suggestible and more accurate than males in recalling events in an eyewitness context (Lipton, 1977). Other research with an adult population has suggested that gender differences in suggestibility vary depending on the context. According to Powers, Andriks, and Loftus (1979), females were less suggestible about "female-oriented" details, such as women's clothing, and males were less suggestible about "male-oriented" details, such as surroundings of the offense. The gender orientation of the details was determined by using a preliminary procedure designed to measure which details men and women were more likely to notice.

Recently, Calicchia and Santostefano (2004) looked at gender differences in suggestibility while varying modes of perception of a stimulus (i.e., auditory, visual, and multimodal), finding that girls were more suggestible only when 10 to 12 year old participants viewed a video (multimodal perception). No gender differences were apparent when either a verbal stimulus or a visual stimulus was used.

Other studies indicated that girls are less suggestible than boys. For example, Redlich (2000) found that females (ages 12-13, 15-16, and 18-26) were generally less suggestible than their male counterparts in an experiment in which participants were accused of crashing a computer. These results are particularly interesting in light of the previous research that either

found no gender differences in suggestibility or that females were more suggestible than males. These inconsistencies in the findings suggest that the relationship between gender and interrogative suggestibility is not a simple one.

The purpose of the present study was to examine the impact of suggestibility between male and female eyewitness students at University of Sindh, Pakistan. The idea was to see whether females are more susceptible to misleading information than males, consistent with the preexisting stereotype that women tend to accept the misinformation readily available from external sources than men. It was hypothesized that, notwithstanding the change in format, the female eyewitnesses would be more suggestible than the male eyewitnesses, and there would be a negative relationship between recall and susceptibility to misleading questions.

## **2. Method**

### ***Participants***

There were two groups of the participants, one of that comprised the sample of 30 female students their mean age was 21 years. The other group comprised 30 male students with mean age of 22 years. Participants were selected randomly; most of them were studying in the first year of their graduation. The Study participants belonged to different ethnic groups and studying in different disciplines and were approached in small groups. Participants were chosen because they could be easily approached and interviewed.

### ***Instrument (Scale):***

The GSS is a behavioral test conducted particularly for the assessment of suggestibility that has been validated extensively. Both scales comprise a narrative passage, which is read to the participants to obtain measures of free recall. Subsequently, 20 questions, 15 of which are misleading (i.e. they infer the incorrect response, including 5 false alternative questions), are presented. The interviewee's "Yield" score (i.e. the number of questions to which he or she gives an incorrect response by 'going along' with the same premise of the questions) is determined. These items are interspersed with 5 non-leading (true) questions. Regardless of the accuracy of the responses given by the interviewee, the interviewer then provides a 'negative feedback' (i.e. the interviewer informs the interviewee that they have provided a number of incorrect responses and that they must be more accurate in answering the questions when repeated) and insists that it is necessary to present the questions a second time. The extent to which the interviewee subsequently changes their initial answers to these 20 questions in response to this 'negative feedback' from the interviewer results in their 'Shift score'. "Total Suggestibility" comprises a sum of the 'Yield' & 'Shift' scores.

For the current study Gudjonsson suggestibility scale (GSS) and its parallel form, GSS 2, were developed and translated into Urdu. They give a reliable measure of the verbal memory recall, both immediate and delayed, and 'interrogative suggestibility' which have been shown to have two distinct components- "Yield" and "Shift". The GSS 1 and GSS 2 provide the objective measures of the 'Confabulation' (the false recollection of episodic memory) which refers to problems in the memory processing where people replace gaps in their memory with imaginary recollections. The adapted scale contained 12 questions about the video recording. Four of these were **misleading**, in that they created an expectation of an affirmative answer that would be an incorrect response, another four were **false alternatives** (or forced-choice questions), where both the alternatives were wrong. These questions were interspersed with four non-leading questions relating to the information, which were shown in the recorded clip.

### ***Event***

A 5-minute video recording, edited from a local movie was used. The event was chosen because it had a multidimensional properties, and realistic without being upsetting. It contained both the visual and auditory information. It was shown to groups of 5-6 participants, in their leisure time.

### ***Procedure***

The videotaped event was shown to the groups of 5-6 participants on the TV set, participants were asked to watch and listen carefully, as they would be asked later about what they thought of the clip. Approximately 24 hrs later, each of the participants were asked to tell what they saw in the film, after they had finished, they were interviewed individually as part of the study comprising the effect on the recall of eyewitnesses of different types of questions. At the end of the interview phase of the study, that the adoption of the phase GSS scales was presented following the instructions provided by Gudjonsson (1997). Each question was read out clearly, and the response sought. At the end, regardless of the participants' response, he or she were given 'negative feedback' by being told firmly that "you have made a number of errors. It is therefore necessary to go through the questions once more, and this time, try to be more accurate". The questions then were

repeated in the same way. The response to questions prior to, and following negative feedback was scored. And finally again they were asked to tell what they saw and heard in the video clip that they had seen 24 hrs earlier.

### 3. Results

#### *Comparison of suggestibility between two groups*

Table 1 shows the mean percentage between two groups on all six suggestibility variables. As expected, compared with the male participants, the female participants were more suggestible. The difference in ‘Total Suggestibility’ between the two groups arose from the greater susceptibility to the ‘misleading questions’ of the female participants’ group. Initially, they were significantly less likely to provide ‘resistant’ or ‘don’t know’ responses to the misleading questions. However, there were no significant differences (apart from the ‘Shift’ and ‘Yield 2’ mean scores) in the scores, indicating that they did respond differently to the ‘negative feedback’.

**Table 1: Mean percentage suggestibility scores for the two groups of participants**

	Suggestibility scores	
	Male (N=30)	Female (N=30)
Yield1	33.40****	40.42****
Yield 2	33.80****	40.08****
Shift	26.41	38.49
Total Suggestibility Score	31.11****	39.11****
Resistance	71.27****	60.17****
Don’t know	4.44****	5.82****

\*\*\*\*P<0.0001

#### *The effect of recall on suggestibility*

Correlation analyses (Pearson’s Product Moment) were conducted to see if recall in the preceding interview was related to the responses to the suggestive questions. The analyses took the form of correlating each type of response to the suggestibility scale, with the interview recall of the total correct, total incorrect and total confabulation.

Table 2 shows that whilst there was no significant relationship between the number of incorrect items recalled and any of the components of suggestibility, participants who recalled more correct information in the preceding interview were less susceptible to misleading questions to both prior to, and following, negative feedback. They were also much more likely to give ‘don’t know’ responses. In addition, the number of confabulation during the preceding interview correlated with susceptibility to misleading questions both prior to, and following, feedback and difficulty in providing a ‘don’t know’ response. A further analysis was then carried out.

**Table 2: Correlation between recall and responses to the suggestibility scales**

Suggestibility	Recall		
	Correct	Incorrect	Confabulation
Yield 1	-0.41****	Ns	0.31**
Yield 2	-0.44****	Ns	0.261**
TSS	-0.33**	Ns	Ns
Not misled	0.354***	Ns	-0.237*
Don’t know	0.291**	Ns	-0.245*

TSS is the total suggestibility score; \*P<0.05, \*\*P<0.01, \*\*\*P<0.001, \*\*\*\*P<0.0001

***t-value for two groups on the TSS and Shift scores***

As mentioned earlier a further analysis of t-value was conducted to see the significance level between the responses of two groups on the total suggestibility scores and the shift scores. The results are given in the table 3 below.

**Table 3: T-Value of the ‘TSS’ and the ‘Shift’ Scores**

<b>Variable</b>	<b>t-value</b>
<b>Total Suggestibility</b>	2.10
<b>Shift</b>	1.06
<b>Yield 1</b>	1.29
<b>Yield 2</b>	1.47

#### **4. Discussion**

The aim of the present study was to compare suggestibility among male and female participants, using the adaptation of an established measure (the GSS, Gudjonsson 1997) with a visual and auditory event. In addition, it was expected that there would be negative relationship between recall and susceptibility to misleading questions. As expected, the present study provides evidence that interrogative suggestibility can lead to erroneous recall of the information in both male and female as previous findings (Schacter, 2001; Gudjonsson and Clark, 1986; and Boon & Baxter, 2000) have suggested. Additionally, as predicted, it is also found that female eyewitnesses are more likely to be suggestible to leading/suggestive questions than the males.

In recalling the videotaped event correctly (as shown in Table1) females were less accurate than the males. Female participants produced lower percentage of correct responses. In addition, Roberts and Blades (1996), who utilized the audio and video events (live) also found that female, are less accurate at recalling the event information correctly, particularly of violent event.

Eyewitness’s responses to misleading questions after the negative feedback (Yield 2) were more incorrect than prior to the negative feedback (see table 1). The gender difference in incorrect responses to questions that mislead female eyewitnesses about the detail in the videotaped events is consistent with that found by Roberts and Blades (1996). In the present study, female’s susceptibility to misleading questions was higher after the misleading information being given. Interestingly, both groups didn’t tend to intrude the erroneous information into their subsequent interviews. It is believed that the interviewee initially accepts the misleading information in order to fill in the gaps in memory concerning that particular aspect of the event.

There was also mean significant difference between the two groups on the extent to which they changed their responses (Shift) following the ‘negative feedback’ (see table 1). This can be explained within Gudjonsson and Clark’s (1986) theoretical model of interrogative suggestibility. This may be based on the socio-cognitive perspective, where suggestibility is dependent upon the coping strategies that people use when faced with the ‘uncertainty’ and ‘expectations’ of the interrogative situation.

In addition, a further analysis of t-value found that the results on the ‘total suggestibility scores’, ‘shift’, ‘Yield 1’ and ‘Yield 2’ were significant (see table 3), suggesting that female and male eyewitnesses responded differently to all of these variables. In the present study it is found that in recalling the videotaped event correctly females were less accurate than male eyewitnesses. Female eyewitnesses produced lower percentage of correct responses, that of 49.94% accuracy. The male eyewitness group evidenced 67.50% accuracy. Participants in both groups rarely reported suggested information. Witnesses are often questioned repeatedly prior to their courtroom testimony (Whitcomb, 1992). Also, females’

susceptibility to misleading questions was higher after the misleading information being given. Findings suggest that interrogative suggestibility can dramatically alter the recall of the information.

The findings lead us to suggest that it is imperative for investigators to be particularly careful in asking such questions of witnesses who are victims/witnesses of scripted events. However, more detailed and more ecologically valid research is needed in this sphere. Another avenue for the future research involves examining the various skills that might underlie witness's interrogative suggestibility. Individual differences in witness's cognitive processing, such as their ability to use other retrieval strategies (e.g., organization and sorting) and their meta-cognitive abilities (Johnson et al. 1993) are likely to affect interrogative suggestibility.

#### ***Future Studies & Limitation of the Study***

Future studies can consider situational factors that could affect an individual's self-reported likelihood of offering false confessions. For example, the style used by the interrogator may have an impact on how an individual responds to questioning. Also, how college students would perform in an interview if an interviewer's approach to questioning varies.

Although it is premature to make specific policy recommendations based on the findings of the current study, a discussion of some potential precautions may be useful. It is likely that false confessions are the result of both individual and situational factors, but the contribution of each remains unclear.

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**APPENDIX A Questionnaire used for the study**

- Q.1:** In the clip shown, was the girl naming Meena?
- Q.2:** Was the dog at the right side of the Parrot?
- Q.3:** Did the Girl learn counting using buffalos or dogs?
- Q.4:** Did thief wear the red shirt?
- Q.5:** The old woman holding a tomato or the potato in the hand?
- Q.6:** Did the thief steal a hen?
- Q.7:** Were there seven or thirteen students in the classroom?
- Q.8:** Was the teacher teaching a table of three in the classroom?
- Q.9:** Were there apples drawn on the blackboard?
- Q.10:** Did the girl have six hens?
- Q.11:** Did the fish come out of the shirt of the thief when he fell in the river?
- Q.12:** Was the policeman shown as running after the thief?