Socio-economic Schemata Conveyed through Physical Appearance of a Criminal in an Eyewitness Context

W. A. S. Nirmani, D. D. K. S. Karunanayake

Abstract

The prime factor of wrongful convictions in global criminal justice systems is mostly due to evidence provided by eyewitness misidentifications. Among a wide array of causes for this fallibility in memory, schema-driven false memory gains a crucial role. A host of applied cognitive psychology researches have uncovered that a series of characteristics of the defendant and the characteristics of the witness are causing erroneous reconstructive memory of the witness. Therein schemata on physical appearance which convey socio-economic status (SES) of the criminal are assumed to lead into reconstructive memory in eyewitness testimony. The purpose of the present study, therefore, lied in an attempt to understand the prevailing physical and socio-economic status schemata of a typical criminal and their effects on visual memory of eyewitnesses. A qualitative research design was adopted in data collection and data analysis and six participants were given two schema-consistent and schema-inconsistent pictures that elaborated two different crime scenes of bank robberies. The data were gathered in two different circumstances as immediate recall and delayed recall. The collected data were analyzed in using thematic analysis. The results provided evidence for prevailing schemata on physical appearance that convey information on the criminal‟s SES. These schemata also conveyed evidence to prove that participants have selected and recalled information in accordance to their prevailing schemata on physical traits and apparent SES of the criminals. Thus, it is concluded in the study that according to their inferences on the physical appearance and socio-economic status, eye witnesses make assumptions on their recalling details related to behaviour, person‟s character, criminality, and background of the crime scene.

Key words: Eyewitness memory socio-economic schemata, Physical appearance of criminal schema-consistent information, Schema-inconsistent information reconstructive memory, Crimes

Introduction

Eyewitness identification and providing a detailed account of a crime scene involves in a memory process in which recalling the context of information is particularly important. Hence it is crucial to identify the factors that can result in fallibility of human memory. Both cognitive and social psychologists have paid their attention to the importance of studying real-life memory. (Neisser & Winograd (1988). These studies have paved way to uncover a host of factors that affect eyewitness memory: characteristics of the criminal event- exposure time, complexity, familiarity with the physical surroundings, characteristics of the defendant – race, attractions, sex, age, characteristics of the witness – perceptual sets, retention interval, composite drawings, mug shots, question structure, lineup instructions and structure. Among these causes of false memory, the present study considers one of the defendant's characteristics – the physical appearance and the socio-economic status as shown, that is assumed to interfere with the schema-driven memory recalling. According to Allport and Postman, 1945 people filter information that is inconsistent with their schemata and the main idea that schema-consistent information, inferring the main idea that people are more likely to remember the schema-consistent information. Thus people tend to select and retrieve schema-consistent information easily than schema-inconsistent information, also facilitating them to recall the stereotypical information effortlessly. According to Rothbart, Evans and Fulero (1979) during the encoding stage of information-processing people are greatly affected by their prior expectations they

contain. This kind of selective encoding can drastically result in later recalling as they are more tended to recall what they expect. (Roediger & McDermott, 1995). In finding out the functioning of human information processing and memory, psychologists came up with a dilemma that aroused the question whether schema-inconsistent information or schema-consistent information is better recalled. Consequently, some researchers tended to refute the assumption that schema-consistent information is better recalled than the schema-inconsistent information. They conceptualized that schema-inconsistent information has a memorial advantage as it attracts extra attention during encoding relative to the consistent information resulting in better recalling. Moreover researchers wanted to identify the impact of cognitive lad on information processing. When a task is more complex, schemata play a crucial role in recalling information allowing people to recall more consistent information. This can also be found when people are faced with complex tasks. In a situation where people encounter complex tasks they tend to memorize consistent information and to discard inconsistent information. Consequently, in situations where people face less complex cognitive tasks their reliance on schemata increases predominantly as schemata facilitate memory processing. In such a condition individuals are more likely to leave out the inconsistent information in order to fit into the prevailing schema. Allport (1954) coined that evidence contradicting to a schema is acknowledged, but quickly discarded or "fenced off" so that the individual can retain with the activated schema. As identified by the researchers in cognitive psychology, people use schema to recall and recognize criminals on a crime scene. Therein the eyewitnesses actively engage in the use of schema of criminals in recalling and identification of the criminals. These schemata can be a production of media; as portrayed in television crime shows, movies and in the news leading to build up a more generic cluster of ideas of what certain criminals look like. As a result people could imagine a visual picture of a typical pedophile, bank robber, shoplifter, and a murderer. Moreover these stereotypes can be found linked with facial features of a typical criminal, racial schema, socio-economic status schema and the physical traits of that person. Hence if they are given time to judge the criminality of a criminal they will heavily rely on schema-consistent information that will lead to better recalling in that person.

As very rarely this kind of forensic psychology research is undertaken in the Sri Lankan context researcher believes that the research provides a more fundamental and basic attempt to thrill and encourage further researches in this particular field in the future.

Methodology

As the primary or the main purpose of the present research deals with the understanding of the prevailing schemata of socio-economic status of a criminal which is inferred mostly through the appearance, of the research design should give way to uncover and elaborate such memory functioning in words of the people produced by circumstances of a criminal event.

Through collecting data and analysing it inductively the researcher intended to come up with concepts and codes that allow explanation of the research question. Therein, adaptation of the qualitative research design, instead of quantitative measurements allowed more chances and space to explore the nature and function of schematic processing in eyewitness memory.

Sample

The convenience sampling method was used to select participants to the study which allowed the researcher to espouse the sample from the population which is readily available and convenient. Consequently 6 participants including five females and one male were selected from the undergraduates of the University of Peradeniya. All the participants fell in the age group of 24 – 27.

Materials

In the research used visual stimuli which are more typical for eyewitness memory rather than using linguistic stimuli. Additionally this was used due to the fact that recognition memory is generally superior for pictures, relative to words or sentences, a phenomenon known as the picture superiority effect (McBride & Dosher, 2002). It is said because the pictures have more distinct features which are closely linked to meanings that provide advantages in the processing (Nelson, 1979; Pezdek & Chen, 1982) and also the broadness of contextual detail in pictures result in richer memory traces and enhanced conceptual recollection (Serge, 1995). Thus picture memory provides a strict examination for the potential role of schematic processing in memory modification and errors.

Pictures of Crime Scene

The visual stimuli presented to the participants included two pictures of bank robberies taken from closed-circuit television pictures. Picture 1 which is hypothesized to be schema-inconsistent showed a typical bank robber: a man in suit (wearing a blazer and a tie) but covering face with a mask and holding a gun in one hand. This picture provided an appearance of a 'high status' person (See Appendix 1). In Picture 2, that is assumed to portray a schema-consistent picture of a bank robbery done by two bank robbers dressed in jeans, t-shirts, warm-up jackets covered in masks holding guns in their hands. This portrayal of the criminal is taken as 'low-status' condition.

Open-ended description form

Participants were asked to record, using paper and pen, all they could remember about the criminal and about the crime.

Procedures

To investigate the effects of schematic processing in memory recalling the subsequent stages were followed:

Stage 1: The participants were shown Picture 1 and Picture 2 for one minute, (This was done to avoid the effect of exposure time to memory performances.) thus giving equal amount of time to see the pictures.

Stage 2: Participants were asked to record, using paper and pen, all they could remember about the criminal and about the crime in the each of the pictures at the same time. This was taken as the immediate recall. In this step the researcher did not give any directions or guidelines to write the descriptions. They were given freedom to write about what they saw in the pictures. Thus the participants were left to decide and write what they remember and to decide the details they are going to include in their testimonies.

Stage 3: After 24 hours delay the participants were asked to write another two descriptions of Picture 1 and Picture 2. These descriptions are named as delayed recall descriptions.

After collecting two descriptions for each picture totally being four descriptions for both recalling incidents, the total number of participants provided twelve descriptions about the photographs. These descriptions were thus analyzed in the data analysis stage.

Results and Discussion

Analyses of the written descriptions provided by the participants on Picture 1 and Picture 2 in both instances: immediate recall and the delayed recall were compartmentalized into few categories, therein allowing the data to be positioned into five major categories as follows:

I) Physical appearance
II) Behaviour
III) Person's character
IV) Criminality
V) Background

As the main objective of the present study was to identify schema on physical appearance of criminals, when it provides implications of socio-economic status of that person, the researcher concentrated on the witness accounts given by the participants on the appearance of the criminal in considering two main aspects as mask and dress. The research findings implied that every participant have paid attention on the recalling and remembering of physical appearance of the criminal and have basically found out to be the main element in their commentary of the criminal.

Physical appearance

In the descriptions provided by the participants details on the stocking-mask of the criminals in picture 1 and picture 2 are included. In the commentaries of all descriptions on mask about the criminal in Picture 1, they have extended their details to elaborate their own opinions on wearing a mask in that kind of a criminal scene. One of the participants has commented that it is not appropriate to wear a mask in such an environment. However they also have explained that it must in Picture 1, they imply that the writers could identify the person as a criminal only because of his mask as his dress does not imply any criminality from him. In various accounts of the participants, they show disagreement coordination of mask and dress. They hypothesize that since the criminal wears a mask, he is noticed quickly and thus it does not go along with the rightful attempt of disguising. When it comes to commentaries on the masks of the criminals in Picture 2, five participants out of six have provided descriptions on the mask of the criminals. However compared to the details on the mask of the criminal in Picture 1, they have paid less attention to the masks of the criminals in Picture 2. Moreover it is found that their descriptions was not intended to comment on appropriateness or criminality conveyed by the masks in that crime scene, than just to mention that they have worn masks at that time. In commenting in the physical appearance of the criminal participants have paid attention to their dresses. In Picture 1, all the participants have recalled on the dress of the criminal and have several assumptions made on the criminal and the context in relation to their physical appearance. His attire; a suit (Blazer, a tie, shoes) is considered as professional and as a well-dressed person. Also he is judged to be a descent person as he wears a "descent" dress. In addition, the criminal is assumed to be in a high status in the society as he wears a suit. In considering him as a perpetrator, they assume that has deliberately chosen this kind of as attire in order to easily escape after committing the crime. Another assumption made on the dress of the criminal was that in dressing up a suit in this kind of a crime scene is inappropriate and the criminal is disorganized. In other accounts provided by the participants, they have identified his dress as "European" attire. Moreover they consider him to be a well-dressed "gentlemen". In eyewitness testimonies given for Picture 2 describe dresses of the criminals as "casual" dress as they have worn t-shirts, jeans and warm-up jackets. Comparison to the descriptions on the attire of the criminal in Picture 1, participants have paid less attention in recalling the outfits of the criminals in Picture 2. Therefore only four participants have recalled information in both instances where one participant has completely

neglected in commenting on the dresses of two criminals in the crime scene. One of the participants has written on their dresses as "European". In addition they mostly recalled aspect of their dress is the black warm-up jacket which has the same sign in both the criminals. Other than that they are seen as casually dressed persons.

In relation to the fundamental objective or the caliber of the research that is demarcation of implicitly conveyed schema on physical appearance of a criminal is successfully achieved during the study. Most of the written descriptions conveyed stereotypical opinions on the dress code of a typical criminal and thus based on those generic frameworks participants have organized information regarding the witnessed crime scene. Primarily their descriptions conveyed the idea that the criminal's attire in Picture 1 is seen as inconsistent with their prevailing schemata of a typical criminal. This was suggested by their implication that the criminal involved cannot be perceived as a typical criminal unless he holds a gun in his hand and covering his face with a stocking-mask. However the criminals in Picture 2 were expectancy-consistent with schema of a typical criminal- the dress and appearance. Moreover, since this schema-consistent and inconsistent information juxtaposes with the socio-economic status (SES), the reliance on the schema in information processing considerably have increased. Similar to the findings receives from the study of Bodenhausen and Wyer (1985), the present research findings supports the fact that when the crime involved a low SES individual, with whom the crime is stereotypically linked with, participants relied heavily on case relevant information. However when the crime involved a person of high SES appearance, participants predominantly discard this information, presumably because it was schema-inconsistent.

Behaviour

In the findings of the study it is implied that subjects have paid less attention on recalling details about the behaviour of the criminals as half of them have not included anything about it. By looking at the gestures and the mannerisms of the criminals some of them have tried to come into conclusions about the behaviour of the criminal at that particular incident. According to Picture 1, recalling descriptions, the criminal is assumed to be walking cautiously and suspiciously. Nonetheless according to the assumptions made by the participants, they do not witness a typical criminal's behaviour from this person in Picture 1.

When it comes to Picture 2, participants have recalled quite a lot of details regarding the behaviour of those persons than in Picture 1. Their gestures, mannerisms, the way they held the gun is perceived to be the ideal and typical behaviour of criminals in a robbery that occurs in a public place. The way they threaten other people, nonverbally conquering the hostages. In addition these behaviour patterns have indicated that they are well-experienced criminals.

Based on the activated schema on physical appearance of a criminal, the participants' perception of other factors related to the criminal is also differed. It has equally influenced their inferences on the behaviour of the criminals. As the attire and appearance of the Picture 1 criminal schema-inconsistent while Picture 2 criminals are schema-consistent, their behaviour also is perceived in same categories that correspond with the expectation-consistency. Subsequently typical criminal behaviour is assumed to be seen from criminals in Picture 2 when Picture 1 does not fit into it.

Person's character

Compared to the descriptions on the age, only one participant has predicted the possible ages of the criminals in both pictures. The person in Picture 1 is seen as a middle aged person while the criminals in Picture 2 are perceived as young persons. These assumptions were mainly based on the physical appearance of the criminals: their body structure and their attire. As the criminal in

Picture 1 wears a suit, he is assumed to be in his middle ages while the other criminals who are dressed up in jeans, t-shirts and warm-up jackets with shoes are seen as young persons. Hence, it is clear that people in ambiguous situations such as when the faces are covered in black masks use dressing patterns and the physique to draw inferences on the person's age.

The witnesses stated that criminal in Picture1 is more or less seen like a person who works in some office and belong to a high class in the society. Moreover, this perpetrator was perceived to have a well-built physique and also a good personality characteristics and traits. His physical structure and postures suggested him to have strength and confidence in him which also indicated that he is a well-experienced person. This is not actually collaborated with his criminality but attached to his professional life and as a non- perpetrator. Thus his experience and confidence is attributed as positive characteristics a man can possess not as a criminal. In addition to his personality characteristics were not matched with the schema of personality traits of a criminal. That has made the subjects to perceive a clash between his assumed personality traits and the criminality. However in the Picture 2 recalling descriptions, the subjects have provided less number of details about the personality of the criminals. As they were seen as young persons, this has led them to conclude that they are inexperienced but personality characteristics that fits into the stereotype of robbers.

When relations between assumptions on the person's character and the physical appearance s taken into consideration, it is clear that the same phenomenon of drawing inferences through the mostly apparent clue of the person; the dress is used predominantly. When the person shows high SES appearance positive personality characteristics are attributed whereas when low SES is attributed with somewhat negative characteristics. The man in suits is considered to be a decent and someone who come from high social background than someone in casual clothes. Since both the criminals in two pictures cover their faces and hold weapons, the only parameter to measure their decency and Socio-economic status becomes dress code of that person. Consequently the participants have implied that the criminal in suit is a more "decent" criminal whereas criminals in casual clothes are considered perfect ideal robbers.

Criminality

When the participants relate to the organization for the crime in their testimonies they have a gun. All the participants in the immediate recall and delayed recall in Picture 1 have paid attention to the weapon held by the criminal. From this aspect, most of the participants have inferred that the criminal is organized for the crime. One of the participants have inferred that as the criminal holds a gun in his hand, it is more likely that he is going to murder someone than going to steal something. In one instance a participant has stated that the criminal in Picture 1 seems to be disorganized for the crime. However many of the participants have recalled only the weapon of the criminal, since they have not made any assumptions on the organization for the crime by the criminals.

In recalling the crime scene of Picture 2, the participants have mainly focused on the organization for the crime by the way they enter into the crime scene. Participants have noticed their weapons. However, in suggesting about their organization for the crime, they have presented different opinions. Two participants have said that there criminals are seemed to be more organized as they hold a bag in one hand and also because of the way they behave in the context. Yet another one assumes that they seem to be disorganized and inexperienced. This was manly inferred through their anxious behaviour.

In several instances participants have written assumptions on the severity or the type of crime he is going to commit. However relative to the assumptions made on the organization for the crime,

they have less likely to predict about the type of crime. Only three participants have paid attention to the type of crime they are going to commit. They have perceived them as bank robbers who have come to rob money from that place.

As in other cases, physical traits of a criminal have influenced the perceived criminality assumptions. Participants have tended to accumulate more stereotypical judgments of criminality with the dress and physical appearance of the criminal. They have seen criminals either as organized or disorganized t the crime in accordance to their criminal schema. It is apparent that the attributed socio-economic status of the person has guided the participants to perceive the criminal with variations in guilt and criminality. The high SES physical appearance criminal is supposed to be a murderer than a bank robber, whereas low SES appearance criminals were most of the time assumed to be robbers. This can be due to the prevailing visual images that have an effect on information-processing in a similar context. As there are generic visual pictures of how certain criminals look like such as a bank robber, murderer, shoplifter etc, the participants have more likely to perceive Picture 2 criminals as bank robbers when the criminal in Picture 1 is seen as a murderer. Thus as in the findings of Goldstein, chance, and Gilbert (1984), the study provides evidence for the fact that people adjust their criminal judgments in accordance to their visual image of a certain type of criminals in a given eyewitness context.

Background

In describing about the crime place of Picture 1 participants have assumed it to an important office where people enter into it in suits and professional clothing. As there were no other people in the crime scene, they hypothesized it to be an office where people rarely come. Also one of the participants has stated that the criminal has entered into the crime scene in an evening when the lighting is considered. In Picture 2 recalling of participants have seen the place like a bank or some other public place where a lot of people gather also it is hypothesized that this can be a state office. One of the participants stated that this is an ideal place for robbery as there are quite a lot of people gathered around.

Participants, who have concentrated on the factors of the background, have essentially commented on the people involved in the crime scene. As in Picture 1 there are no other persons presented other than the criminal, there is nothing about people mentioned and thus only in the recalling descriptions of Picture 2, there are in detail accounts of people's gestures, mannerisms, behaviours and their reactions to the actions of the criminals. Some state their positioning and the emotions involved.

Theoretical Implications on Schema and Visual Memory: Eyewitness Recall and Recognition

The above relation confirms the existence and influences of schemata on physical appearance of the criminal, in the information-processing in an eyewitness context. However without knowing whether these influences of schemata apply to visual memory, assumptions cannot be made on the information processing identification accuracy of eyewitnesses. Everyday memory uses indicate these people's beliefs about the world influence how they see the world and how they remember events. They also indicate that memories are partly shaped by the social situations in which they are formed and retrieved. In this kind of procedure people engage in a process to make everything meaningful. Therefore they apply existing knowledge, beliefs and expectations about the world – which they draw from long-term memory – in order to understand what's going on (Allport & Postman, 1947). Thus in discussing about people' eyewitness memory – which is essentially an everyday phenomenon, is related to constructive and reconstructive

memory because people are actively shaping information and build their own memories. Hence they are constantly constructing and reconstructing their eyewitness memory in an eyewitness context. As shown by Bartlett this reconstruction of memory is attached to the schemata that help make sense of the world and provide guidelines in predicting the future actions. Therein the process of recalling memory involves a reconstruction phenomenon of memory in terms of those schemata (Eysenck, 1993). Bartlett's conception of reconstruction memory is thus provided evidence in the present study as the participants have demarcated Picture 1 as schema-inconsistent and Picture 2 as schema-consistent. This identification has guided them in the proceeding recalling process as participants have recalled information in accordance to their conception of expectance-consistency. Similar to the findings of Butler and Pallone (2002), the present study suggests that the dress and appearance of a criminal can affect the recall of eyewitnesses. It is predominantly supported that their recalling is affected by their perception of the appearance mainly in terms of low socio-economic status and high socio-economic of a criminal.

When applied into the model of schema formulated by Alba and Hasher (1983), it is apparent that memory processes are schema-driven as participants have intended to process information encoding in relation to the activated schema.

Selection – the participants have selected the mostly matching incoming information for the activated schema on socio-economic schema implied by the physical appearance. They have processed the information as high SES criminal in Picture 1 and low SES criminal in Picture 2. Thus in recalling memory for other details in the crime scene such as behaviour, person's character, criminality and background information, they have used the same schema-driven parameter of socio-economic status conveyed through physical appearance schema to select the data.

Abstraction – this selection of information is based mainly based on the meaning and relevance to the SES and physical appearance schema that is being activated than considering the surface character of that information.

Interpretation – as conveyed by the meanings and the patterns of data processing, it is inferred that the participants have accessed to their prior knowledge on SES and physical appearance of a criminal. That has led them to interpret the criminal in Picture 1 as schema-inconsistent whereas criminals in Picture 2 as schema-consistent. Relying on that fundamental assumption, the participants have interpreted new information related to the eyewitness context.

Integration – in the final stage, as the core product of selection, abstraction and interpretation participants have brought out their final memory representation in a holistic approach which is being reconstructed in terms of activated schema.

In supporting this model of schema participants memory recalling and the selection of data to be processed is filtered through the activated schema on SES and physical appearance. Based on that parameter, they have identified behaviour of the criminal as expectance-consistent or inconsistent while his personality is also interpreted in terms of his perceived SES and physical traits. Moreover the criminality judgment and the background interpretation also provide information for the SES assumptions of the criminal.

Conclusion

The purpose of the present study was to examine the prevailing schemata on physical appearance and SES of a criminal and their influences on the recall and recognition aspects of eyewitness testimony. A consistent schema on criminal may lead a witness to falsify recall based

on the prevailing schema rather than on the specific instance. Also it is apparent that schema-inconsistent criminal will be distinctive and hence will lead to more accurate recall and recognition.

In the present study, witnesses were requested to recall as much information as they could with regards to what happened during the crime. It was predicted that the criminal's appearance would interfere with the details the witnesses would remember as evidenced by the level of details provided by the amount of recall and recognition errors. Overall, witnesses recalled a similar amount of information pertaining to crime in both immediate and delayed recall. They did not provide more erroneous information based on the consistency or inconsistency of the schemata on a criminal appearance. However their selection of the segments chosen to provide details differed in accordance to their expectations on a typical criminal's personality traits. Witnesses stated that the appearance of the criminals in Picture 2 was consistent with their stereotype of a robber whereas the criminal in Picture 2 did not resemble. These stereotypes on the criminal's appearance played a larger role in describing the person, behaviour, criminality and background.

Greater research in the area of schemata and their influence will allow us to better interpreting information gleaned from eyewitnesses.

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