Are eyewitness identifications reliable?

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Eyewitness identifications during identification procedures such as show ups, live line ups and photo line ups are reliable to an extent in the forensic discipline, but are mostly fallible when assisting police with their enquiries regarding suspects and offenders, due to the fact that the reliability is dependent on a variety of factors relating to the memory of the witness and situational context of the crime. There are three types of memories: sensory memory, (“ very short duration for which sense-based information is held post exposure” (Lecture (2015)), short – term memory (“ information that can be stored for approximately thirty second without rehearsal” (Lecture (2015)) and long-term memory (“ the unlimited amount of information that can be stored over a lifetime of rehearsal” (Lecture (2015)). The computer memory model refers to the factors relating to the input of information, the passage of time for which the information is stored and output of eyewitness information through different types of questioning. The input aspect of the computer memory model can be separated into witness and situation categories which include factors such as stress and age.

Stress is a crucial factor when determining the reliability of eyewitness identification as it can diminish the accuracy of the memory and is largely dependent on whether the victim or witness has experienced a violent crime such as an armed robbery or aggravated assault. Research studies have been conducted in the area of stress/arousal, concluding that there is a correlation between high anxiety exposure and errors associated with eyewitness memory. Coinciding with this research finding is the correlation between trait anxiety and a significantly lower frequency in errors associated with eyewitness memory.

A research study was conducted by the University of London, investigating the effects of high state anxiety on the participant's abilities to identify and describe the antagonist from a horror labyrinth present in a line up. This was sparked due to the fact that 215 individuals were acquitted after being falsely imprisoned in the United State of America following the re-opening of cases using DNA from the crime scenes(Valentine and Mesout, (2009), page 151). This " mistaken eyewitness identification was a cause of the miscarriage of justice, of 75% of these cases" (Valentine and Mesout, (2009), page 151). The study consisted of two sample groups; the first sample group consisted of 20 employees from a retail store whose participation helped legitimize the state anxiety inventory. Each employee's standard heart rate was monitored and recorded during a brisk seven minute walk prior to entering the labyrinth, once entered the participants encountered a frightening individual before continuing on with the exhibit and completing the state anxiety inventory questionnaire forty five minutes later. This sample proved that there was an increase in heart rate which was caused by psychological arousal when entering the London Dungeon. The eyewitness study group consisted of 56 participants and also encountered the scary person in the labyrinth; similarly they completed the state anxiety questionnaire forty five minutes later and a trait anxiety questionnaire followed by a " written free call description of the scary person" and a " cue recall" before rating their confidence after completing an impartial photo line-up consisting of nine individuals. The results of the research study concluded that " participants who reported lower state anxiety recalled more correct descriptors" (Valentine and Mesout, 2009, page 157), which would obviously indicate that " people who reported higher state anxiety recalled

fewer correct details” (Valentine and Mesout, 2009, page 157) of the antagonist. Furthermore, “ participants who reported high state anxiety were less likely to correctly identify the [scary person]” (Valentine and Mesout, 2009, page 158), which is statistically shown as “ only 17% of eyewitness[es] correctly identified the person from a nine-person culprit-present photograph line-up” (Valentine and Mesout, 2009, page 159). Additionally, there is a link between sex and state anxiety suggesting that male eyewitnesses are more accurate in their identification in comparison to their female counter-parts, which could be due to the fact the females experienced higher anxiety levels than males in London Dungeon (Valentine and Mesout, 2009, page 158, 159). However, regardless of the different results between sexes and state anxiety, overall the results clearly indicate that psychological arousal experienced during exposure to high stress situations for both genders, significantly affects the ability of eyewitnesses to recall information and recognize culprits during identification procedures, which diminishes their reliability.

Similarly, a field study was also conducted during U. S Army survival school training, which was imperative for gaining optimal research results rather than research studies conducted in laboratories. The investigation was conducted on “ five hundred and nine… active –personnel enrolled in military survival school training” (Morgan et al., 2004, page 3). The participants were separated into four different studies, each focusing on a specific identification procedure when attempting to recognize instructors during simulated high and low stress interrogations during the prisoner of war camp phase of training. Of the 228 participants in the first study group which

focused on the live line-up method of identification, 188 participants were interrogated by two instructors while 40 participants were interrogated by one instructor (Morgan et al., 2004). The second study group consisted of 114 subjects which focused on the photo line-up method of identification (Morgan et al., 2004). The third group comprised of 167 participants who focused on the photo line-up method while under high stress and lastly the fourth group focused on the photo line-up identification method while under low stress (Morgan et al., 2004). Following the interrogations and according to the identification method their study group focused on, each participant was required to identify the instructors present in the questioning. The results confirmed the general point of view that by exposing individuals to high stress situations, the subject's ability to recognize the target person was impaired due to the overwhelming influx of emotions the participant experienced at the time. The data collated suggests that the criminal justice system would benefit substantially in reducing the number of cases of innocently imprisoned individuals, if law enforcement agencies shifted their attention towards the sequential method of eyewitness identification. Statistics indicate that the sequential photo method is considerably accurate than the live line-up and photo –spread method (Morgan et al., 2004). This is due to that fact that study group 3 and 4 scored the lowest in high stress situations; " 49%"(Morgan et al., 2004, page 8) in their ability to " correctly identified their interrogator" (Morgan et al., 2004, page 7) , " 100%"(Morgan et al., 2004, page 8) in their ability to " correctly identified that their interrogator was not present in the … sequential presentation of photos" (Morgan et al., 2004, page 7), and recorded fewer errors "(51%)"(Morgan et al., 2004) in their ability to " not pick their true interrogator "(Morgan et al.,

2004, page 7), in comparison to study group 1 and 2, who were focusing on alternative identification methods. Furthermore, evidence suggests that eyewitness identifications can be increasingly reliable during high stress situations with the aid of cued photographs (49%)(Morgan et al., 2004, page 9) than without (“ 66%”)(Morgan et al., 2004, page 9). Nevertheless, regardless of different identification procedures, the reliability of eyewitnesses to recall and recognize the target person under high anxiety is steadily lower compared to low anxiety situations.

Like stress, the ability of eyewitnesses to correctly identify the target person during procedures of recognition, is dependent on the age of the witness therefore only reliable to an extent. Most research studies conducted conclude with findings indicating that the ability to accurately identify the culprit is higher among teenagers and young adults, in comparison to middle aged and older adults, as the common conception is that with age comes reduced facial recognition due to impaired memory. However, most of these research studies include young assailants therefore failing to recognise that eyewitness identifications of older adults are reliable to an extent, if the trigger person is of the same age.

A research study group conducted two experiments in London, experiment 1 consisted of “ 113” [random]…Caucasian male” (Wright & Stroud, 2002, page 645) participants, who were inexperienced in identification procedures and were selected from either their “ workplace… leisure area or around the university” (Wright & Stroud, 2002, page 645). The subjects were then divided in two sample groups depending on their age, “ between 18 and 25” or… 35 and 55 years old” (Wright & Stroud, 2002, page 645). Both sample

groups comprised of approximately half young adults and half middle aged adults, and were assigned to either a “ 1-day or [a] “ 1-week condition” (Wright & Stroud, 2002, page 645). Participants were required to independently view four videos for which “ two showed a car being stolen [(by one young culprit in the first video and one adult culprit in the second video)] and two showed a television being stolen [(by one young culprit and one adult culprit)]” (Wright & Stroud, 2002, page 645). Volunteers were then required to accurately identify the trigger person in a culprit present photo line-up consisting of “ six fillers and one culprit” (Wright & Stroud, 2002, page 645), a day or week later. Results collated indicate that middle aged adults assigned to the one day condition find it notably difficult in identifying young offenders, scoring only 24% in the ability to positively identify the younger culprit (Wright & Stroud, 2002). Results continued to decline for middle aged adults assigned to the one week condition as they were only 20% accurate in positively identifying the younger culprit in comparison to younger adults, scoring 47% in their accuracy after one day and 29% after one week (Wright & Stroud, 2002). However, results indicate that although middle aged adults struggled to accurately identify the young assailant in the one day condition, their ability to positively identify there same age culprit scored 47% in accuracy. Experiment 2 was conducted similarly, although it explored if age biases were present during culprit absent photo line-ups. The study consisted of an additional “ 180” (Wright & Stroud, 2002, page 649) subjects which were divided again into two separate age groups ranging from “ 18 and 33 or between 40 and 55 years old” (Wright & Stroud, 2002, page 649). Researchers also removed the one week condition from the experiment as “ effect size was largest for the 1-day delay” (Wright &

Stroud, 2002, page 649) in the first experiment. Participants viewed the four crime videos again and were then required to accurately identify the trigger person in a culprit present or culprit absent photo line-up. Among both age groups, the accuracy of subjects increased by 10% when the assailant and filler were of the same age of the participant's during the culprit present line-up (Wright & Stroud, 2002) , which was also evident in first experiment. However, during culprit absent photo line-up, the statistics indicated that " own age biases" (Wright & Stroud, 2002, page 652) exist only with culprit present photo line-ups due to the fact that middle aged adults won't " be more likely than younger participants to identify an innocent young suspect, but they will be more likely to fail to identify a guilty young culprit" (Wright & Stroud, 2002, page 652).

Similarly, a research study was conducted with broader younger and older age groups, ranging from " 16-33 years and … 60- 82 year[s] [old]" (Memon, Bartlett, Rose & Gray, 2003, page 44). The study consisted of " 172" (Memon, Bartlett, Rose & Gray, 2003, page 44) volunteers for which younger participants were selected from their respective " local colleges" (Memon, Bartlett, Rose & Gray, 2003, page 44) , while older participants were selected based on their reply to local flyers in " local centres, clubs, and societies" (Memon, Bartlett, Rose & Gray, 2003, page 44). Participants were required to participate in a " face-source recollection task" (Memon, Bartlett, Rose & Gray, 2003, page 45) prior to watching two videos for which there was a young offender or older offender engaging in a criminal activity. Subjects were then " assigned to the delay or immediate test condition [session]" (Memon, Bartlett, Rose & Gray, 2003, page 46) and took part in "

two line-ups with the perpetrator [either] present or …. absent” (Memon, Bartlett, Rose & Gray, 2003, page 46). They were then subsequently made to repeat the facial recollection task for which participants needed to identify “ old (seen in session 1) or new (not seen in session 1)” (Memon, Bartlett, Rose & Gray, 2003, page 46) faces. The median statistics of younger versus older adults indicate the same results as of experiment 1 and 2 of the previous article, that overall, younger participants were able to correctly identify the culprit (“. 86”) (Memon, Bartlett, Rose & Gray, 2003, page 46) regardless of time delay in comparison to older participants (“. 49”) (Memon, Bartlett, Rose & Gray, 2003, page 46). However, the most notably important relationship of the statistics, is the correlation between the accurate recognition of culprits among both age groups and the “ measure of source recollection derived from a separate face-recognition task” (Memon, Bartlett, Rose & Gray, 2003, page 43). Results reveal that older adults recorded noticeably poorer on the task thus indicating that “ source-recollection deficits are partially responsible for age-related differences in performance of the line-up task” (Memon, Bartlett, Rose & Gray, 2003, page 43).

Mistaken identification by eyewitnesses during show up, live line-up and photo line-up procedures, contribute significantly to the number of unjustly imprisoned individuals, some of which (340) have already been executed. Almost all research studies conclude with contradictory evidence to one another however there are clear patterns among results of factors, which influence the reliability of eyewitness recall and recognition. The situational factor of witness stress/psychological arousal, determines the extent for which eyewitness recall are dependable on during testimonies. Exposure to

high stress situations, increase state anxiety, which diminishes the dependability of eyewitness memory recall across both genders. Variables such as gender differences also indicate that women in comparison to men are less accurate in their ability to identify and describe the trigger person. However, the assistance of cued photographs during sequential photo method identification procedures, have proven to increase accuracy of descriptors and facial recognition of the perpetrator, which if implemented across the criminal justice system, would increase the reliability of eyewitness identifications along with reducing the number of innocently imprisoned citizens. Strict guidelines for unbiased questioning during eyewitnesses interviews, would also reduce suggestibility and implanted false memories.

The most contradictory research evidence stems from the accuracy of younger and older eyewitnesses. Although studies generally show that younger adults are more accurate in either identifying or describing culprits, these studies fail to recognise that to an extent, that younger adults are only higher in their accuracy rates, due to the fact that young culprits are mostly used across all studies. Eyewitness reliability in terms of age was dependant on a variety of factors. Firstly, experiments conducted have shown that there is a correlation between higher accuracy results of older adults and their ability to identify same age (older) culprits in target present line-ups. Secondly, time also played a crucial factor as accuracy of both age groups were dependant on short or long delays in recognition, with older participants decreasing in accuracy with increasing time. However overall, younger participants were slightly more accurate regardless of age

difference and time delay. This would indicate that immediate questioning and identification procedures would increase the accuracy of identifications for older eyewitnesses.

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