

The prevalence of co-witnesses and co-witness discussions in real eyewitnesses

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Several laboratory studies have shown that eyewitness discussions can negatively affect memory recall. The current study looked at the prevalence of multiple witnesses using real witnesses at a UK identification suite. We investigated the frequency of co-witness discussion, what the co-witnesses tended to discuss and whether there was an association between this information, and the outcome of the identification. Sixty witnesses at the Force Identification Unit in Brighton (UK) filled out a questionnaire following the identification procedure. Co-witnesses were reported by 88% of the sample, with the average number of co-witnesses being 4.02 (SD = 6.52). In addition, 58% of the multiple witnesses had discussed the criminal event with at least one co-witness. The most common areas of discussion were 'general crime details' (52%) and 'suspect details' (39%). The implications of these findings are discussed.

Keywords: co-witness discussion; memory conformity; eyewitness testimony

Introduction

Co-witnesses can influence each other's memory reports when discussing a criminal event (e.g. Dalton & Daneman, 2006; Gabbert, Memon, & Wright, 2006; Luus & Wells, 1994; Semmler, Brewer, & Wells, 2004; Shaw, Garven, & Wood, 1997; Skagerberg, 2007; Wright, Self, & Justice, 2000) and this discussion is both difficult to prevent (Yarmey, 1992) and appears to be frequent (Paterson & Kemp, 2006b). This could result in several witnesses being errant, which could lead the police in the wrong direction (e.g. Granhag, Ask, & Rebelius, 2005; Memon & Wright, 1999). Due to the high reliance on eyewitnesses in court an errant eyewitness account could help to convict an innocent person or to free a guilty one (e.g. Loftus, 1974). So how often do co-witness discussions occur and what do the witnesses discuss?

The aim of this paper was to examine how often co-witnesses talk with each other using real eyewitnesses at a UK identification suite. This research is important as it could help us to understand how many real witnesses may be influenced by co-witnesses and what the witnesses may have discussed. These findings could, for example, help criminal investigators and police officers as well as lawyers both in the courtroom and elsewhere because they will know not to necessarily treat memories from multiple eyewitnesses as independent.

Several real-world examples exist showing the worrying effects of co-witness discussion. First, following the 1995 Oklahoma bombing three witnesses testified about what they had seen when the truck, used in the bombing, was rented. Initially two of the witnesses

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reported having seen one man rent the truck. However, after discussing the crime details with a third witness who reported having seen two men involved, the other witnesses conformed to his memory report, thus, also reporting having seen two men. This led to the most expensive US manhunt at the time (Memon & Wright, 1999; Schacter, 2001). Second, in 2003, the Swedish foreign minister Anna Lindh was murdered in Stockholm and several witnesses were present. Instead of interviewing the witnesses individually they were put in the same room and interviewed at the same time. This meant that their memory reports were influenced by what the other people had said. It turned out that an errant memory spread through the group and this led the police to produce an errant description of the culprit (Granhag et al., 2005). Third, another example of where co-witness discussions have contributed to miscarriages of justice is when Peter Hain (before he was the leader of the UK House of Commons) was wrongly charged with bank robbery. In this case three young witnesses (12 and 13 years of age) had been discussing what they had seen and had purposefully tried to agree on their evidence before appearing in court. This meant that the witnesses had changed their reports between the time of the police statements and court as to fit their co-witnesses' statements (Hain, 1976). Again, this shows how co-witnesses' exchanges of memory reports can lead to miscarriages of justice.

The effects of co-witness discussions have also been studied in a large number of laboratory studies (e.g. Gabbert, Memon, & Allan, 2003; Luus & Wells, 1994; Paterson & Kemp, 2002; Paterson & Kemp, 2006a; Semmler, Brewer, & Wells, 2004; Skagerberg, 2007; Skagerberg & Wright, 2008a; Wright et al., 2000). These studies show that memory is malleable and that one person's memory can be reconstructed following discussion with another. The discussion could either lead to the formation of memory blends where the person recalls some hybrid of the original information and what the co-witness reports or where the person adopts the co-witness's report (Skagerberg & Wright, 2008b). Any error can be detrimental to the police investigation, to courts, or to an innocent suspect.

As an example, Semmler et al. (2004) found that feedback about hypothetical co-witnesses' identification decision given to them on a computer screen significantly influenced the participants' confidence in their own identification. This shows that co-witness discussion can contaminate reported confidence and make the confidence judgements of limited forensic value. In another example, Wright et al. (2000) got two people with initially different memories to discuss an event and most of those pairs ended up agreeing with each other. Again, this shows that co-witness discussions can have detrimental effects on eyewitness accuracy.

Although these studies show that co-witness discussion in laboratory situations can influence eyewitness accuracy and the case studies show that this can have severe consequences in real cases, we still need to establish the prevalence of co-witnesses to crimes and estimate what proportion of these co-witnesses talk to each other. These numbers are difficult to measure. To date only Paterson and Kemp (2006b) have tried to estimate the number of co-witnesses and the percentage of these who discuss the crime.

Paterson and Kemp (2006b) asked 773 psychology undergraduates to answer a screening questionnaire to find out how many had witnessed a serious crime (their list includes: murder, vandalism, and fraud). Three-quarters of them reported having witnessed a serious crime and 86% of these reported that a co-witness was present (mean number of co-witnesses present = 6.77, median = 3). They then gave a follow-up questionnaire to a sub-sample of 60 of these undergraduates to ask if they had spoken with the other witnesses, and if so, what about. Eighty-six per cent of these participants reported speaking to co-witnesses about the event, most of them discussing emotional issues or information about the event.

This is an important study, but as with any study there are limitations and Paterson and Kemp (2006b) do discuss these. First, the undergraduate psychology population are younger, more intelligent, and may witness different types of events than the more general population of witnesses. Therefore, any study of undergraduates can show that some witnesses do talk with each other, but it is difficult for it to provide a good estimate for what proportion of witnesses, in general, talk. Second, many of their participants had witnessed several events and had to choose one for the study. This may have introduced a bias. Third, some of the crimes had occurred long before the survey. Asking somebody for details about whether they spoke with someone about an event several years before is a taxing question. Remembering multiple events, choosing among them, and reporting specific details about these years afterwards are difficult meta-cognitive tasks which could result in unreliable answers.

To improve upon Paterson and Kemp (2006b), we drew our sample from people who had just taken part in an eyewitness identification at an ID suite in the UK and asked them about the one crime they were there for. We were interested in establishing the prevalence of multiple witnesses, how many of these witnesses had discussed the crime, what the discussions tended to involve, and whether they had made a suspect identification, filler (non-suspect) identification, or no identification. By using witnesses at an identification suite we are able to access information such as what crime they had witnessed and the outcome of the identification. The memory delay problem in Paterson and Kemp's (2006b) study is addressed because the aim for UK identification processes is to complete them within 14 days of the event. Obviously this is not possible for all crimes, but the suite from where we sampled witnesses meets this for most crimes.

One aspect of our data needs addressing. Valentine, Pickering, and Darling (2003) and Wright and McDaid (1996) found that there were multiple witnesses taking part in the identification parade for about half of the suspects in their studies. Because of anonymity requirements we could not record if any of our witnesses had viewed the same suspect. It is likely that this did occur. While all of our estimates remain unbiased, this will affect the precision of our estimates. Given the ethical/legal requirements when collecting data from real witnesses there was no way around this limitation.

Method

Ethical issues

Safeguards were taken to ensure that the witnesses' identities were not revealed. This was to ensure that lawyers would not be able to identify a witness from his/her questionnaire and therefore that lawyers would not be able to use the information gathered from the study in order to help their case. The only recorded information was whether the witness had identified the suspect, a filler, or had made no identification. Age and gender were not recorded. This study received ethical clearance from the Life Science Research Governance Committee and approval by the Sussex Identification Suite.

Participants

A total of 60 witnesses from the Sussex Identification Suite (UK) volunteered for this study. They received no monetary incentive. Because for ethical reasons we had to ensure

that no witness could be identified (see Wright & Skagerberg, 2007, for details), we are not able to estimate a response rate.

Materials

The first part of the questionnaire included three general questions about the identification procedure. These were included in order to give feedback to the police officers about how the witnesses rated their experience at the Sussex Identification Unit.

The second part of the questionnaire looked at what sort of crime the witnesses had viewed, if there were other witnesses present at the time of the crime, and if so, whether they had talked to each other, and what they had discussed. The questionnaire also asked them whether they had identified the suspect, a filler, or whether they had made no identification. At this specific eyewitness ID suite, witnesses are always provided with information concerning their identification outcome. This is also usually done in the rest of the UK, although not everywhere.

The questions were scored on seven-point scales (e.g. 'Were the arrangements for collecting you satisfactory?'), short answers (e.g. 'If there were other witnesses present, approximately how many other witnesses were there?'), or with tick boxes (e.g. 'What sort of crime did you witness?', with the options violence against person, sexual offence, robbery, house burglary, other burglary, fraud and forgery, criminal damage, which were taken from the British Crime Survey, see www.homeoffice.gov.uk).

Procedure

The witnesses were asked to come to the Sussex Identification Suite in Brighton, UK, where they took part in an identification parade (i.e. a line-up). Details of these procedures are given in Wright and Skagerberg (2007) and comply with the Police and Criminal Evidence Act (PACE). After the procedure witnesses were taken to a post-identification room where the questionnaires were available. Witnesses could fill it out there or take one and a pre-paid envelope addressed to the researcher.

Results

The analyses focused on identifying the types of crimes witnessed, how many (if any) co-witnesses were present, whether the participants reported discussing the crime with a co-witness and if so, what they had discussed. Our main focus is on these univariate statistics, but we also explore whether there was any association between the type of crime and outcome of the identification with these co-witness variables.

Table 1 shows the frequency and percentages of the different types of crimes witnessed. The most frequently witnessed crime was violence against person (42%) followed by robbery (27%). Other surveys use different classification schemes, but Valentine et al. (2003) used a similar scheme for their survey of London identifications. They found 43% of 'crimes against person' and 37% for robbery.

In our study, based on self-reports, 40% of the witnesses identified the suspect, 15% identified a filler, 38% made no identification, and 7% reported that they did not know who they had identified at the time they filled in the questionnaire. It is difficult to interpret this final group. They may have filled out the questionnaire in the waiting room before they were told the outcome of their identification, they may have forgotten the outcome, or may not be responding for some other reason. The figures for the other

Table I. The types of crimes witnessed.

Crime type (BCS classification)	<i>n</i>	%
Violence against person	25	42
Robbery	16	27
Non-house burglary	5	8
Fraud and forgery	2	3
Sexual offence	2	3
House burglary	1	2
Drug offence	0	0
Criminal damage	0	0
Other	9	15

BCS, British Crime Survey.

categories are roughly in line with large surveys of the London Identification Suites (Valentine et al., 2003; Wright & McDaid, 1996) where 40% of the time the suspect is identified, 20% of the time a filler is chosen, and 40% of the time no identification is made. Thus, on the basis of the available information, our sample appears representative of those who take part in identification parades.

Eighty-seven per cent of the witnesses had at least one co-witness present. The mean number of co-witnesses was 4.02 (*SD* = 6.52) with a median of 2.5. These are similar to Paterson and Kemp (2006b) who found that 86% of those in their screening questionnaire had a co-witness present with a mean of 6.77 (*SD* = 9.66) and a median of 3.0. Our variable was skewed (skewness = 4.11, *SE* = 0.31). For statistical analyses 0.5 was added to each value and the natural logarithm was taken. This produced an unskewed distribution (skewness = 0.19, *SE* = 0.31) and therefore we will use this variable in later statistical analyses. Out of those who reported that there were co-witnesses present, 58% reported discussing the crime with them, which is less than the 86% in Paterson and Kemp's undergraduate sample. The most common areas of discussion by our witnesses were: 'general crime details' (52%), 'suspect details' (39%), emotional support (6%), and 'other' (3%).

Next we examine the bivariate relationships between the crime type and identification outcome with the co-witness variables: whether there was a co-witness, the log of the number of co-witnesses, whether the witness discussed the event, and what was discussed. Relevant proportions and means are shown in Table 2. All of these variables, except the number of co-witnesses, are categorical, so the χ^2 test was used for most comparisons (and ANOVA-based statistics for tests involving the number of co-witnesses). Because of the large number of categories, some of the categories were collapsed or removed for the statistical analyses.

1. For the crime type variable we compare 'violence against person' with all others. We compared 'violence against person' with others because of theories which suggest highly violent events may produce qualitatively different types of memory than non-violent events (Hope & Wright, 2007).
2. For identification outcome we remove the 'don't know' responses.
3. For discussion details, we compare 'suspect details' with 'general crime details'.

The results of the statistical tests were as follows. For the type of crime, 88% of witnesses to 'violence against person' crimes said there were other witnesses compared with 86% for the remaining crimes, which is not a statistically significant difference, $\chi^2(1) = 0.07$, $p = 0.80$. However, there were more co-witnesses on average for 'violence against person'

Table 2. Values for the co-witness variables broken down by crime type and the outcome of the identification.

Types of crime	% with co-witness	Mean no. of co-witnesses*	% discussing†	What was discussed‡ (% of those discussing)			
				Suspect details	Crime details	Emotional support	Other
Violence against person	88 (<i>n</i> = 25)	6.96	46	50	40	10	0
Robbery	100 (<i>n</i> = 16)	2.56	63	40	50	10	0
Non-house burglary	100 (<i>n</i> = 5)	3.80	60	0	100	0	0
Fraud and forgery	100 (<i>n</i> = 2)	1.50	100	0	100	0	0
Sexual offence	100 (<i>n</i> = 2)	1.00	100	50	0	0	50
House burglary	0 (<i>n</i> = 1)	0.00	NA	NA	NA	NA	NA
Other	56 (<i>n</i> = 9)	1.33	67	50	50	0	0
<i>Identification outcome</i>							
Picked suspect	92 (<i>n</i> = 24)	4.58	55	33	50	17	0
Picked filler	100 (<i>n</i> = 9)	2.11	56	60	20	0	20
No identification	78 (<i>n</i> = 24)	4.83	67	25	75	0	0
Don't know	75 (<i>n</i> = 4)	2.75	50	100	0	0	0
Total	87 (<i>n</i> = 60)	4.18	58	39	52	6	3

*These are the means of the raw variables, not the transformed ones or backtransformed ones.

†These are the percentages of those discussing the event out of those with co-witnesses.

‡These are percentages out of those who had discussions with co-witnesses.

(backtransformed mean = 3.34 people) than other crimes (backtransformed mean = 1.59), $t(58) = 2.44$, $p = 0.02$, $\eta_p^2 = 0.09$. Of those with a co-witness, 46% of the 'violence against person' witnesses said that they discussed the event compared to 68% of the others. This difference failed to reach significance: $\chi^2(1) = 2.63$, $p = 0.11$. Finally, of the witnesses who discussed the event (either suspect details or crime details), 56% of the 'violence against person' group discussed the suspect compared with 40% of the other witnesses, $\chi^2(1) = 0.61$, $p = 0.44$.

For the three outcomes of the identification (i.e. filler, suspect and no ID), there were no significant differences in whether there was a co-witness present, $\chi^2(2) = 3.46$, $p = 0.18$, but given that most reported co-witnesses further data would be useful to test this association. The number of co-witnesses reported was also not significantly different, $F(2,53) = 0.32$, $p = 0.73$, with backtransformed means of 2.08 co-witnesses for no identifications, 2.54 co-witnesses for suspect identifications, and 1.78 co-witnesses for filler identifications. Across these three groups there was not a significant difference in whether the witnesses with co-witnesses discussed the event, $\chi^2(2) = 0.66$, $p = 0.72$, nor was there a significant difference in whether suspect or crime details were discussed, $\chi^2(2) = 4.43$, $p = 0.11$. There was also no significant difference in identification decisions between witnesses who discussed the suspect versus witnesses who did not (i.e. those that discussed crime details and those who did not discuss at all), $\chi^2(1) = 0.85$, $p = 0.65$.

Discussion

The findings from this study showed that 88% of the real eyewitnesses reported having at least one co-witness present at the time of the criminal event. Fifty-eight per cent of the

multiple witnesses also reported discussing the crime with their co-witness and the most common discussion topic was general crime details followed by suspect details. These findings support previous findings showing that it is common for co-witnesses to discuss the criminal event (e.g. Paterson & Kemp, 2006b) and that most line-ups involve multiple witnesses (e.g. Wright & McDaid, 1996). The percentage of witnesses who reported discussing the event with their co-witness in this study may be lower than found by Paterson and Kemp (2006b) because the witnesses did not want to admit that their identification evidence may have been influenced by a co-witness. The witnesses may also have forgotten that they discussed the crime with a co-witness. In addition, a bivariate analysis showed that there were more co-witnesses present for crimes involving 'violence against person' than for other crimes. This could be useful for law professionals to bear in mind because this group of people are more likely to have their memories contaminated.

The fact that 58% of the multiple witnesses discussed the crime is worrying as it could lead to transfers of misinformation, which could be incorporated into the witnesses' memories (e.g. Gabbert et al., 2003). Both laboratory studies (e.g. Gabbert, Memon, Allan, & Wright, 2004; Wright, Self, & Justice, 2000) and real-world examples such as the witness discussions associated with the Oklahoma bombing (Memon & Wright, 1999; Schacter, 2001) and the bank robbery charge concerning Peter Hain support this claim (Hain, 1976). Thus, although memory collaboration can lead to more information being recalled, it often inhibits retrieval at an individual level (Basden, Basden, & Henry, 2000; Wright & Klumpp, 2004), disrupting accuracy and increasing reliance on other people's memories. For the same reasons it is also worrying that general crime details and suspect details were much more commonly discussed than, for example, emotional support. One can imagine that several witnesses discussing, for example, the facial features of a perpetrator could lead to one person's errant memories contaminating descriptions to the police, in court, and during the identification process. If most of our witnesses' discussions were for emotional support, this could be seen as positive and could even be encouraged.

Although it would be difficult, the implications of these findings are that witnesses should be discouraged from discussing the eyewitness experience with co-witnesses both by the police and by law professionals. Findings show that police officers sometimes even encourage co-witness discussion (Paterson & Kemp, 2005) as well as encourage witnesses by telling them what their co-witnesses reported (Hain, 1976; Shaw et al., 1997). This should be avoided and police officers must be told about the consequences of such actions. Discouraging discussion is important as several findings show that it could lead to memory conformity and confabulated eyewitness accounts (e.g. Dixon & Memon, 2005; Luus & Wells, 1994; Semmler et al., 2004; Skagerberg, 2007; Skagerberg & Wright, 2008b; Wright et al., 2000). Real-life examples exist showing that mistaken eyewitness identifications due to co-witness discussions can have severe consequences in court and for the police investigation (e.g. Granhag et al., 2005; Memon & Wright, 1999; Scheck, Neufeld, & Dwyer, 2003).

Current UK Police And Criminal Evidence (PACE) regulations state that police should tell witnesses not to discuss the actual identification procedure, but our data show that many witnesses have already discussed the event prior to the identification. The UK government is currently undertaking a review of PACE. On the basis of this survey, police should establish whether co-witness discussions have occurred and whether the witness reports can, as a consequence, be seen as independent. This is part of the recommendations made by the British Psychological Society to the UK government as part of a consultation procedure for revising PACE.

In sum, eyewitnesses often view a crime in the presence of one or more co-witness/es and discussions occur approximately 58% of the time. These discussions are worrying as they can result in inaccurate memories and transfers of misinformation (e.g. Gabbert et al., 2006; Roediger, Meade, & Bergman, 2001; Wright et al., 2000). However, co-witness discussion could also have a positive effect on memory accuracy. If, for example a witness with poor memory recall discusses the crime with a witness with good memory recall, his/her retrospective memory accuracy is likely to improve (Paterson & Kemp, 2006a). As an example, Roediger et al. (2001) found that when a confederate recalled all items from a scene correctly, the participants later recalled 43% of these items correctly as compared to just 26% when neither the confederate nor the participants were able to recall the items during the first phase of the study. Similar findings were shown by Paterson and Kemp (2006a), showing that participants subjected to correct post-event information were significantly more accurate than controls. Thus, although we know that collaborative memories could result in inaccuracies and that they should be treated with caution, one must not forget the positive effects that co-witness discussion could have on identification and retrospective memory accuracy.

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