The Dangers of Co-Witness Familiarity: Investigating the Effects of Co-Witness Relationships on Group Conformity.

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Abstract

The purpose of this study was to examine the effects of pre-existing relationships between co-witnesses on statement similarity, after a post-event discussion. Although research studies have attempted to observe the effect of a pre-existing relationship on eyewitness pairs, few have investigated these effects on larger groups of co-witnesses. Four hundred and twenty participants took part in an eyewitness simulation experiment. Participants were placed into groups of five, and viewed video footage of a bar fight. After witnessing the event, participants discussed the event with group members before giving individual statements privately. The study employed a one-way between subjects design with three conditions; 1) participants discussed the event with familiar co-witnesses; 2) participants discussed the event with unfamiliar co-witnesses; and 3) participants were not permitted to discuss the event with their co-witnesses (control). It was found that post-event discussion between co-witnesses increased the level of similarity in blame attribution within the eyewitness groups; however, this difference was only significant in groups where eyewitnesses shared a pre-existing relationship. In addition, the level of uncertainty was reduced when eyewitnesses took part in post-event discussions. It is suggested that this might be attributed to an increased level of informational influence between familiar co-witnesses. However, there was no evidence suggesting that post-event discussions led to an increase in false eyewitness statements.

Keywords: Eyewitness; Statement similarity; Conformity; Blame attribution; Eyewitness relationships.

1. Background

Research indicates that both police officers (Kebbell & Milne, 1998) and jurors (Schmechel, O'Toole, Easterly, & Loftus, 2006) place a considerable amount of trust in the reliability and accuracy of eyewitness evidence. Evidence also suggests that the accuracy of eyewitness statements can be significantly tarnished if co-witnesses discuss the event with others prior to giving a statement (Skagerberg & Wright, 2008a). The prevalence of post-event discussions amongst co-witnesses is high, with survey reports indicating that 86% of real-life eyewitnesses discussed their witnessed event with other co-witnesses prior to giving evidence (Paterson & Kemp, 2006). The occurrence of such discussions can have significant implications for the investigation, with research indicating that eyewitnesses can be influenced by others to recall information that they did not witness, a process more commonly referred to as *memory conformity* (Carlucci, Kieckhaefer, Schwartz, Villalba, & Wright, 2010; Gabbert, Memon, & Allan, 2003; Gabbert, Memon, Allan, & Wright, 2004; Garry, French, Kinzett, & Mori, 2008; Hoffman, Granhag, See Kwong, & Loftus, 2001; Paterson & Kemp, 2006).

1.1.Blame conformity

During most crimes where the victim can be clearly differentiated from the offender (such as a robbery), there will be little contention between co-witnesses regarding who is at fault. However, disagreements between co-witnesses are more prevalent within crimes where the task of attributing blame to the correct party is more ambiguous (such as a fight between two parties or a motor collision involving two drivers) (Tuckey & Brewer, 2003). Research on memory conformity suggests that when co-witnesses hold differing recollections of the event, a post-event

discussion can cause their individual statements to become more similar (Gabbert et al., 2004; Mori, 2003; Wright, Self, & Justice, 2000). Moreover, research suggests that eyewitnesses can be influenced by their co-witnesses when attempting to attribute blame to the correct suspect, a process referred to as *blame conformity* (Mojtahedi, Ioannou, & Hammond, 2017; Thorley, 2015; Thorley & Rushton-Woods, 2013). Thorley (2015) demonstrated the effects of blame conformity by presenting participants with video footage of a crime taking place and then giving them a bogus co-witness statement from a (hypothetical) previous participant. Later, when questioned about the event, participants who had read a co-witness statement which blamed an innocent bystander for committing the crime were significantly more likely to make the same blame attribution error, compared to participants who had not been given a misleading co-witness statement.

Multiple implications can be drawn from the research on blame conformity. An integral basis for questioning eyewitnesses is to identify the correct offender (Wells & Olson, 2002). In circumstances where there may be contentions between which suspect is at guilt, an eyewitness's statement may be used to determine which potential suspect is at fault. Thus, the research findings on blame conformity demonstrate how co-witness discussions could influence multiple witnesses into providing false information to the police, which could consequently slow down the investigation. Furthermore, through blame conformity, eyewitnesses may then provide incorrect testimonies within the courtroom, which may consequently lead to a miscarriage of justice if the innocent bystander is convicted. Based on the severity of these implications, blame conformity is perhaps one of the most severe consequences that can arise from a co-witness discussion and, thus, blame conformity is the main focus of the present study.

1.2.Causes of blame conformity

1.2.1. Source attribution error

A large body of research suggests that many eyewitnesses can unintentionally incorporate misleading post-event information into their memory reports through source attribution errors, a psychological process where post-event information is misattributed as witnessed information during memory reconstruction (Cann & Katz, 2005; Schacter, Guerin, & Jacques, 2011; Tousignant, Hall, & Loftus, 1986). Although source attribution errors can explain how witnesses may incorporate misinformation into their reports during memory recall tasks (memory conformity), the task of blame attribution is a more cognitively demanding process that not only requires the witness to recall the event, but also requires them to interpret the information correctly, in order to determine which potential suspect is guilty. Owing to this, researchers have suggested that blame conformity may be more of a conscious process, facilitated by an individual's need to be correct (Thorley, 2015; Thorley & Rushton-Woods, 2013).

1.2.2 Informational and normative influence

Co-witness conformity can also occur intentionally as a result of informational influence (Blank, 2009; Gabbert et al., 2003; Gabbert, Memon, & Wright, 2007; Wright et al., 2000), the process of conforming to others to obtain the correct answer (Deutsch & Gerard, 1955). Due to the significant implications that are associated with giving evidence to the police, many witnesses will feel pressured to provide accurate information. However, a heightened pressure to perform can consequently motivate an eyewitness to report newly learnt misinformation, if they perceive the source to be accurate (French, Garry, & Mori, 2011; Williamson, Weber, & Robertson, 2013).

Normative influence, the pressure to conform as a means for gaining approval and acceptance from others, has also been shown to lead individuals to conform to the memory

reports of others. Wright et al. (2009) found that during a series collaborative memory recall trials, many participants had chosen to conform to their partners' erroneous reports to avoid receiving any negative evaluation from them. However, police investigators are trained to collect statements privately (Williamson et al., 2013), suggesting that within a forensic setting, the level of normative influence would be reduced (Deutsch & Gerard, 1955).

Although research indicates that general memory conformity can be facilitated by any of these three processes (Loftus, Feldman, & Dashiell, 1995; Wright et al., 2009), Thorley (2015) demonstrated that the act of blame conformity was primarily motivated by informational influence. More specifically, the study found that participants would only conform to co-witnesses that they perceived as being competent, suggesting that blame conformity was driven by the witness's need to obtain the correct information.

The theoretical model of informational influence also dictates that the way an information source is perceived will affect how influential it is on the target (Echterhoff, Hirst, & Hussy, 2005; Skagerberg & Wright, 2009; Williamson et al., 2013). More specifically, for informational influence to be effective, the target must perceive the source as being more likely to be correct than themself (French et al., 2011; Williamson et al., 2013). As a result, the individual characteristics of the information source will have an effect on how much influence they have on other co-witnesses (Betz, Skowronski, & Ostrom, 1996; Forgas & Williams, 2001). In addition, the size of the information source (i.e. the number of individuals presenting the information) has also been identified as a mediating factor for informational influence (Bond, 2005). Asch (1951) argued that for tasks where there was an obvious correct answer, misinformation would only be influential if it was presented by a group of at least three individuals. It can therefore be inferred

that the risks of blame conformity will be heavily mediated by both the size and characteristics of the source from which the information comes.

1.3.Co-witness familiarity as a mediator of blame conformity.

Despite the previous literature concordantly stating that co-witness discussions can influence individual statements, most of these studies incorporated experimental designs where the participants were strangers to each other (e.g. Gabbert et al., 2003; Gabbert et al., 2004; Meade & Roediger, 2002). Although the utilisation of heterogeneous groups can allow for a much easier sampling process (opportunity sampling), the ecological validity of such designs may be suspect due to the recurrent tendency for eyewitnesses to have pre-existing relationships. A recent survey found that 77% of eyewitnesses are likely to have a previous acquaintanceship with another co-witness (Paterson, Chapman, & Kemp, 2007).

As mentioned previously, research suggests that co-witness influence is highly dependent on the source from which the information comes (Hope, Ost, Gabbert, Healey, Lenton, 2008; Kwong See, Hoffman, & Wood, 2001; Smith & Ellsworth, 1987; Lampinen & Smith, 1995). Moreover, research suggests that eyewitnesses are more likely to conform to the memory reports of co-witnesses that they share a pre-existing relationship with, relative to unfamiliar co-witnesses (French, Garry, & Mori, 2008; Hope et al., 2008). French et al. (2008) found that participants were more likely to be misled by the erroneous report of a romantic partner, than from the erroneous report of a stranger. Similar effects have been found amongst friends; Hope et al. (2008) demonstrated that participants were more likely to be misled by misinformation from a friend or romantic partner than from a stranger. Although the aforementioned studies were based

on memory recall tasks rather than blame attribution, they highlight the significance of pre-existing relationships in mediating to co-witness influence.

The observed relationship between co-witness familiarity and memory conformity may be due to an increased level of trust towards familiar co-witnesses. Many relationships are built upon, and maintained through, a shared reality, where individuals will be more inclined to agree with each other (Echterhoff, Higgins, & Groll, 2005; Sorrentino & Yamaguchi, 2008). Consequently, eyewitnesses may be more likely to accept information from such acquaintances as a result of an habitual interaction. Research shows that when a conflict in judgement occurs between eyewitnesses, individuals are more likely to believe that they are more accurate than a stranger, than compared to a friend (Hope et al., 2008). This is because when an eyewitness is exposed to information from a stranger, the individual would lack any mental schemas to help assess the validity of the conflicting information and would therefore be more inclined to disregard their information; whereas when exposed to information from a familiar co-witness, the individual can use their pre-existing knowledge about the co-witness to gauge the reliability of their judgement (Festinger, 1954; Forgas & Williams, 2001; Gabbert et al., 2007; Kieckhaefer & Wright, 2014). Contrastingly, if the individual perceives a familiar co-witness as being incompetent or untrustworthy, this could motivate them to disregard their co-witness's report (Claes & Poirer, 1992; Skagerberg & Wright, 2009).

Another reason why eyewitnesses are more likely to be influenced by familiar co-witnesses than by strangers is due to an increased level of likability towards the co-witness. Research on social cognition suggests that the likeability of an information source can moderate the level of social influence they have (Burger, Soroka, Gonzago, Murphy, & Somervell, 2001; Cialdini, 2001; Frenzen & Davis, 1990). Hope et al. (2008) explained that eyewitnesses are likely to spend

less time evaluating the reliability of a co-witness's judgement if they find the individual more likeable (unless the individual is deemed as being extraordinarily incompetent).

1.4. Building on the existing co-witness familiarity research.

Previous literature has made a commendable attempt to investigate the effects of co-witness familiarity on statement similarity. However, there are some gaps within the existing literature that need to be addressed.

1.4.1.   Pair versus group studies.

Most research studies investigating eyewitness behaviour have only incorporated experimental designs consisting of eyewitness pairs (e.g French et al., 2008; Hope et al., 2008; Kieckhaefer & Wright, 2014). However, during most crimes there are often additional eyewitnesses present (Memon, Dalton, Horry, Milne, Wright, 2012; Paterson & Kemp, 2006; Skagerberg & Wright, 2008b), with one survey suggesting that — on average — there are six co-witnesses present during an incident (Paterson & Kemp, 2006). As mentioned previously, research on social influence suggests that co-witness influence could be dependent on the number of co-witnesses presenting the misinformation (Bond, 2005). This inference was supported by Walther and colleagues, who investigated the relationship between group size (five versus ten) and memory conformity and found that co-witness misinformation was more influential when it was presented by the larger groups (Walther et al., 2002). On the basis of existing research on group size and social influence, the present study postulated that there was a need for new research to investigate the effects of co-witness familiarity on blame conformity within larger eyewitness groups as, to date, the effects of blame conformity have only been studied on eyewitness pairs.

1.4.2. Use of confederates.

Many studies investigating the effects of memory conformity have exposed participants to misinformation with the use of confederates (e.g. Kieckhaefer & Wright, 2014; Mckelvey & Kerr, 1988). However, the use of confederates can be problematic, as the level of influence a confederate has will be highly dependent on their behaviour and characteristics (Ost, Ghonouie, Cook, & Vrij, 2008). Due to the need for homogeneous groups, the role of confederate would have to be randomly allocated within each group. As a result, this would make it impossible to control for the confederate's characteristics and to prevent these from acting as confounding variables. It was therefore the contention of the present study the removal of the use of confederates would generate an experimental paradigm that would naturally facilitate discrepancies amongst the co-witnesses when attributing blame.

1.5. The Present Study

The main aim of the present study was to observe the effects of a post-event discussion between groups of co-witnesses. Specifically, the research sought to examine whether the relationship between co-witnesses impacted on the similarity of their statements with regards to blame attribution. To achieve these aims, the study comprised three main objectives. The first objective was to establish whether a post-event discussion between co-witnesses could increase the level of group similarity in blame attribution. The second objective was to determine whether a pre-existing relationship between co-witnesses would significantly increase the level of group similarity in blame attribution after a post-event discussion. The final objective was to determine whether there was a significant difference in blame attribution accuracy between the experimental conditions.

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The study attempted to build on previous research into co-witness familiarity by investigating the effect of post-event discussions between groups rather than pairs. Although previous research has shown that an eyewitness can be influenced by misinformation provided by an unfamiliar co-witness, it was the contention of the present research that the inclusion of multiple co-witnesses would reduce the level of informational influence exerted by the individual. The present study also eliminated the need for a confederate by incorporating an ambiguous blame attribution task, where co-witnesses were likely to have contradicting views regarding which suspect was guilty.

2. Method

2.1. Participants

Four hundred and twenty participants (203 males; 212 females; 5 undisclosed) of mixed ages (18–83 years; $M = 33.04$, $SD = 15.62$) were recruited through opportunity sampling. The project was advertised through online media, as well as through the circulation of flyers and posters. The advertisement called for five-person groups of individuals with pre-existing relationships and also for individual volunteers (who would later be grouped with other unfamiliar participants). Participants were not rewarded for their participation.

In line with previous research (e.g. Wegner, Erber, & Raymond, 1991; Hope et al., 2008), participants in groups with pre-existing relationships were required to have known all other group members for a minimum of three months. The study recruited groups of individuals with both familial and friendship based relations for this condition.

2.2. Design

A one-way between-subjects design was employed, with three conditions. In all three conditions, participants were placed into groups of five, to represent a group of co-witnesses, leaving a total of 84 groups. In the first condition, participants viewed the footage with strangers; however, no group discussion was permitted throughout the experiment (Control condition, *N*= 32 groups). In the second condition, participants viewed the footage and then discussed the witnessed event with unfamiliar co-witnesses (Stranger condition, *N*= 16 groups). In the final condition, participants viewed and discussed the witnessed event with individuals that they had a pre-existing relationship with (relationship condition, *N*= 36 groups). Type of relationship was not controlled for, as previous research identified no differences in co-witness conformity rates between individuals with different forms of pre-existing relationships (Hope et al., 2008). There were some discrepancies in sample size between the three conditions, with condition two consisting of significantly fewer eyewitness groups (16), relative to conditions one and three (32 and 36, respectively). The discrepancy was primarily due to the condition's requirement for participants to be completely unfamiliar with their co-witnesses. There were multiple cases where a participant from condition two recognised one of their co-witnesses. Consequently, these groups had to be omitted from the study, reducing the overall number of groups within condition two. Despite this level of variance, all experimental conditions were still of sufficient size for statistical comparisons to be made (in accordance with Stevens, 2009).

Two dependent variables were measured. The first dependent variable measured was the similarity score in blame attribution within each co-witness group (see below for coding criteria); the paper refers to this variable as *statement similarity*. Secondly, the blame attribution accuracy (correct, incorrect, or uncertain) for each individual participant was measured, to determine whether co-witness discussions had an effect on blame attribution accuracy.

2.3. Materials

The study used real-life closed-circuit television (CCTV) footage of a bar fight between two individuals. The footage lasted approximately one minute and thirty seconds, and did not have an audio output. The footage depicted two men in distinctively different clothing (one man wearing a yellow t-shirt and the other wearing a dark green t-shirt) engaging in a conversation before one of the men (dark green t-shirt) attacked the other (yellow t-shirt); shortly after, a physical fight took place between the two men before they were separated.

The footage was selected because of the ambiguity regarding who had started the fight, which would generate a greater level of variance in the blame attribution of eyewitnesses. An independent pilot test (Table 1) found there was a clear distribution in eyewitness blame attribution, suggesting that participants within each group would be likely to hold different views as to who they believed had started the fight.

Insert Table 1 Here

2.4. Procedure

Participants took part in the study in a group (either with strangers or acquaintances, depending on the experimental condition). Due to the ethical considerations of exposing participants to violent footage, participants had to be informed that they would be viewing a CCTV footage that contained violence. Details with regards to the aims of the experiment were kept to a minimum. Participants watched the footage simultaneously in their groups on a monitor screen. After the footage had finished the second phase of the experiment, the group discussion, began. With the exception of the control group, participants were asked to discuss in their groups who they

believed had thrown the first hit. The experimenter left the room during the group discussion, to

eliminate their presence from affecting the participant's behaviour. Participants in the control

groups were asked to sit silently until they were called to leave the room for questioning. The

final phase of the experiment was the eyewitness statement process. Participants were taken into

a private room individually and asked to identify who they believed had thrown the first hit.

Participants were instructed to only report information that they remembered seeing. A potential

risk that the present study had to avoid was the tendency for participants to make a guess when

attributing blame. By doing so, the participants would have a 50% chance of being correct and

this would significantly reduce the internal validity of the present study. As a result, all

participants were directly advised by the interviewer to avoid making any responses through

guessing. Instead, participants were given the option to state that they were uncertain, if they

were unable to answer the question.

2.5. Coding

Eyewitness's blame attributions were used as a measure for statement similarity. For this variable

data was clustered, with each eyewitness group representing an individual data set. Each group

was scored on the percentage of the most common answer given within the group (i.e. if four out

of five group members blamed the suspect in the yellow for starting the fight, the group would

have a similarity score of 80% etc).

The second outcome variable was eyewitness accuracy. If the participant blamed the man

in the dark green top for starting the fight they were scored as being correct. If the participant

blamed the man in the yellow top as starting the fight they were scored as being incorrect. If the

participant was unsure about who had started the fight they were scored as being uncertain.

Within the study, three participants blamed a third party (a bystander who separated the fight) for

starting the fight. Although this answer was incorrect, these participants were scored as "other" to

differentiate them from participants who blamed the man in the yellow (also incorrect) for

starting the fight.

2.6. Analysis

A one-way between groups analysis of variance (ANOVA) was used to compare the mean

similarity scores across all conditions. Post-hoc comparisons using the Tukey HSD were then

conducted to identify where the significance was located. A chi-squared test was used investigate

the effects of each experimental condition on eyewitness accuracy. The effect size for all

significant findings were established, in accordance with Cohen (1988).

3. Results

3.1. Descriptive data

The control group was used to establish the baseline accuracy of eyewitness blame attributions.

As shown in Table 2, there was a similar level of correct and incorrect statements (38.8% &

36.9%, respectively); an additional 22.5% of the participants stated that they were unsure as to

who had started the fight. The variation of statements within the control group indicated that

there would be conflicting judgements between group members in the experimental co-witness

groups (post-event discussion). The data therefore supports the proposition that the footage used

within the experiment was ambiguous as to who had started the fight.

  The average similarity scores in blame attribution for the control condition were also

compared in order to establish the a priori rate of statement similarity. There was a mean

statement similarity score of 60% (*SD* = 15.86%) within the control group (see Table 3). This

indicates that, on average, three out of five co-witnesses made the same blame attribution.

Table 2. Percentage of participant's individual blame attribution accuracy between conditions.

	Correct	Incorrect	Unsure
Relationship	53.3.%	41.7%	10.6%
Stranger	40%	36.3%	23.8%
Control	38.8%	36.9%	22.5%

a = a third party blamed for committing the crime (incorrect).

Table 3. Descriptive data for average statement similarity within eyewitness groups.

	N	*M*	*S.D*
Relationship	36	71.11	19.39
Stranger	16	65	21.29
Control	32	60	16.06

3.2. Unanimity of group statements

The first objective was to establish whether post-event discussion between co-witnesses could increase the level of group similarity in blame attribution. The second objective was to determine whether a pre-existing relationship between co-witnesses would significantly increase the level of group similarity in blame attribution, after a post-event discussion. In fulfilment of the first and second objectives, the mean scores in statement similarity were compared between the three experimental conditions (control, strangers, & relationship), to identify if a post-event discussion influenced the participant's blame attribution and to determine whether there was a difference in the level of statement similarity between familiar and unfamiliar eyewitness groups.

A one-way between groups analysis of variance (ANOVA) was conducted to explore the impact of the group condition (control = no group discussion permitted; strangers= post-event discussion with unfamiliar co-witnesses; and relationship = post-event discussion with familiar co-witnesses) on statement similarity. The homogeneity of variance was violated ($p < .05$), and therefore a robust test of equality of means (Welch's ANOVA) was used. There was a significant effect of co-witness familiarity on statement similarity at the $p < .05$ level for the three conditions, $F(2, 38.12) = 3.3$, $p = .048$. The difference in mean scores between the groups was medium (*eta squared* =.07).

Post-hoc comparisons using the Tukey HSD test indicated that there was a significant difference ($p < .05$) in mean scores of statement similarity between co-witnesses with pre-existing relationships ($M = 71.11$, $SD = 19.39$) and co-witnesses in the control group ($M = 60$, $SD = 16.06$). The difference in mean scores was medium (Cohen's d =.62). There was no significant difference ($p < .05$) in mean scores of statement similarity between co-witness groups with pre-existing relationships and co-witness groups with no pre-existing relationships ($M = 65.71$, $SD = 19.03$). The difference in mean scores was small (*Cohen's d* =.28). There was also no statistically significant difference in mean scores of statement similarity between co-witnesses with no pre-existing relationships and co-witnesses in the control group. The difference in mean scores was small (*Cohen's d* =.33).

3.3. Eyewitness blame attribution accuracy

The final objective was to determine whether there was a significant difference in blame attribution accuracy between the experimental conditions. A chi-squared test was carried out to see if there was an association between group condition and eyewitness blame attribution. The

analysis found that there was a weak significant association between the experimental conditions and eyewitness blame attribution; $\chi2$ (6, $N = 420$) = 19.63, $p < .01$, $\varphi c = .15$. An examination of the standardized residuals revealed that among participants who had a pre-existing relationship with their co-witnesses there were significantly fewer participants stating that they were unsure than expected. Participants in this group were significantly more likely to be influenced by their co-witnesses, suggesting that participants who were uncertain about the event were more likely to conform to co-witnesses. No significant differences were found in the rates of correct or incorrect blame attributions between the experimental conditions ($p > .05$).

4. Discussion

The aim of the present study was to establish the effects of post-event discussion between groups of co-witnesses. Specifically, the study sought to determine whether the relationship between co-witnesses had an impact on the similarity of their statements in relation to blame attribution (blame conformity). The overall results suggest that post-event information from co-witnesses can influence the statements of eyewitnesses, but only if the information is presented by familiar co-witnesses.

It must be noted that despite the present study identifying some significant differences in blame conformity rates between the experimental conditions, the study was unable to determine the cause of blame conformity during the trials. However, as discussed previously, Thorley (2015) suggested that the blame conformity was predominantly driven by informational influence. Therefore, the following discussion primarily draws on the theoretical construct of informational influence when explaining the observations of the present study.

4.1. Co-witness influence between strangers

Results suggest that post-event discussion with strangers did not have a significant effect on statement similarity. Although the descriptive data indicated that there was a slightly higher percentage of statement similarity when compared with the control group (see Table 3), the ANOVA showed that this difference was not significant. This finding is contrary to a large proportion of memory conformity literature (see Gabbert et al., 2003; Gabbert et al., 2004; Kieckhaefer & Wright, 2014; Meade & Roediger, 2002). For example, Kieckhaefer and Wright (2014) found that eyewitnesses were susceptible to conforming to strangers when placed in co-witness groups of two. The discrepancies between the findings of the present study and previous research findings can be attributed to the difference in group size. Firstly, Kieckhaefer and Wright (2014) argued that many eyewitnesses would be inclined to conform to strangers in an attempt to avoid receiving any form of negative evaluation from them. In the present study, multiple co-witnesses were present and the pilot study data indicates that a mixed collection of responses could be expected within each group (Table 1). One theoretical model which has been used to explain the relationship between group size and social influence is *Social Impact Theory* (SIT; Latané, 1981). The theory suggests that whilst the strength (status of the individual), immediacy (how close they are to the target, both in time and space), and size (how many individuals are presenting the information) of a misinformation source can have an increasing effect on its level of influence; the number of individuals being subjected to the misinformation (target group size) can also have a decreasing effect on the misinformation source's level of influence. Moreover, SIT states that social impact is divided between the individuals being targeted (Latane, 1981; Latané & Wolf, 1981); therefore, the impact of any negative evaluation would be reduced and, resultantly, participants in bigger groups would be less pressured to

conform to the unfamiliar co-witness.. Secondly, participants who are placed in a pair will only

be exposed to their co-witness's misinformation. In such an environment, many participants will

be susceptible to conforming to an unfamiliar co-witness if they lack confidence in their own

memory reports (Wright et al., 2000). Within the present study, however, participants were

exposed to the memory reports of four other co-witnesses rather than just one. In contrast to the

previous research, participants will have therefore been likely to encounter co-witness

information that supported their memory reports as well information that contradicted it. With

research indicating that eyewitness confidence is more greatly affected by confirmatory feedback

than by disconformatory feedback (Allwood, Knutsson & Granhag, 2006), it can be argued that

participants within the present study will have been less likely to conform to unfamiliar co-

witnesses due to the presence of confirmatory co-witness information.

Additional research on general social conformity suggests that individuals can conform to a

group of strangers (Asch, 1952; McKelvey & Kerr, 1988); however, such studies have tested the

effects of group pressure using unanimous confederates. In such situations, participants were

placed in an environment where they were against a unanimous group with an opposing

recollection. The unanimity of misinformation has been proven to be an essential factor for

eliciting group conformity (Allen & Levine, 1968; Asch, 1955; Hardy, 1957; Malof & Lott,

1962; Morris & Miller, 1975). This is primarily due to its effects on the level of informational

influence: if a group unanimously hold the same judgement, the target is more inclined to gauge

their view as being more accurate (Baron, Vandello, & Brunsman, 1996). In the present study,

co-witnesses were likely to have differing views, therefore the break in unanimity will have

reduced the level on informational influence. Based on the differences in the experimental

designs and variations in the findings of the present study and previous research on memory

conformity, it is suggested that the risks of conformity to unfamiliar co-witnesses may only emerge when the targeted eyewitness is exposed to co-witness information from either one co-witness or a group of co-witnesses who are unanimous in their reports.

4.2. Co-witness influence between individuals with pre-existing relationships

The results did, however, suggest that a post-event discussion with familiar co-witnesses could increase the risk of blame conformity. The finding is concordant with the previous literature (e.g. French et al., 2008; Hope et al., 2008).

The level of informational influence exerted on an eyewitness affects their likelihood of accepting that information as being accurate (Deutsch & Gerard, 1955; Kaplan & Miller, 1987). It is argued that individuals are more likely to accept information from people that they know than from strangers. As mentioned previously, many relationships are maintained through a shared reality (Echterhoff et al., 2005; Sorrentino & Yamaguchi, 2008). Subsequently, many eyewitnesses may have been inclined to habitually accept the judgement of a co-witness they were close with as part of their behavioural routine. Hope et al. (2008) indicated that individuals are more likely to believe that they are more accurate than strangers, in comparison to their friends and family. This is primarily due to the fact that an individual will have more information about their peers from which to gauge the accuracy of their judgments (Festinger, 1954; Forgas & Williams, 2001; Gabbert et al., 2007). This would suggest that within an eyewitness setting an eyewitness would be more likely to believe that a co-witness was correct if they had a pre-existing knowledge of their cognitive skills. Additionally, if a transactive memory system exists between co-witnesses, this would increase the chances of a group accepting the information from one co-witness, whilst rejecting information from another (Wegner, 1986; Wegner et al.,1991). These explanations are supported by additional research: Thorley (2015) found that co-witness

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conformity was dependent on the eyewitness's ability to gauge the accuracy of their co-witness. Hope et al. (2008) also explained that eyewitnesses are likely to spend less time evaluating the reliability of a co-witness's judgement if they find the individual more likeable. Resultantly, co-witnesses may be less aware of the inaccuracies of their acquaintances and therefore more likely to accept their information as reality.

The importance of a pre-existing relationship on blame conformity can also be attributed to the effects of normative influence brought on by familiar co-witnesses. Walker & Heyns (1962) argued that individuals were more likely to conform to people that they self-identified with. This would suggest that the similarity between two individuals may mediate the likelihood of conformity between them. Previous research on self-attention suggests that this could be due to the individual evoking a matching to standard process, where they will interpret the judgement of a similar co-witness as the norm and attempt to conform to it (Carver & Scheier, 1981; Mullen, 1983). Co-witnesses with pre-existing relationships could be more inclined to share similarities with each other, therefore they would be more likely to attempt to match each other's behaviours.

Post-hoc tests indicated that the differences in statement similarity between participants who discussed the event with strangers and participants who discussed the event with familiar-co-witnesses did not reach statistical significance ($d = .28$, small effect size, in accordance to Cohen, 1988). The findings contradict with the previous findings of French et al. (2008; $f = .27$) and Hope et al. (2008; $\phi = .29$) which identified a significant difference in memory conformity between strangers and familiar participants (medium size of effects, in accordance to Cohen, 1988). However, it must be acknowledged that the latter studies observed different outcome variables to the present study, looking at memory conformity rates between pairs rather than group similarity scores (amongst groups of five participants). It is proposed that despite familiar co-witnesses being more inclined to conform to the reports of their peers, a discrepancy between

some of the co-witnesses would have meant that participants within the same group may have

chosen to conform to different co-witnesses.

4.3. Post-event discussion & eyewitness accuracy

Participants' individual statements were also compared across all conditions to investigate the

effect of post-event discussion on blame attribution accuracy. Despite the data suggesting that

eyewitnesses can be influenced by familiar co-witnesses, there was no evidence suggesting that

this will result in an increase in false eyewitness statements. The distribution between correct and

incorrect statements remained relatively constant across all conditions (see Table 2), with no

significant differences found. Findings did, however, suggest that eyewitnesses were significantly

less likely to be uncertain after discussing the event with familiar co-witnesses. This suggests that

eyewitnesses who are more uncertain about an event will be significantly more susceptible to

being influenced by others around them. This proposition is supported by previous research that

has identified a positive relationship between uncertainty and susceptibility to informational

influence (Smith et al., 2007; Walther, Bless, Strack, Rackstraw, & Wagner, 2002). Despite the

results finding no evidence to suggest that post-event discussions can have a negative effect on

eyewitness accuracy, the results do suggest that uncertain eyewitnesses will be more inclined to

make accusations based on the judgements of their peers - a behaviour that might consequently

create unreliable courtroom evidence. Another implication of the findings presented in Table 2 is

that participants who discussed the event with familiar co-witnesses were more likely to make a

decisions and thus, were more likely to be sure on who they believed had initiated the assault.

This observation of reduced uncertainty suggests that eyewitnesses who discuss an event with

familiar co-witnesses may become more confident in their blame attributions. This could have

negative consequences on a criminal investigation as previous research has indicated that

confident witnesses will be more influential on both jurors and other co-witnesses (Goodwin et al., 2013; Wright, Self, & Justice, 2000). However, due to the present study failing to measure eyewitness confidence, more direct evidence is needed to support this inference.

4.4. Limitations

Whilst the present study extends the previous literature by investigating the relationship between co-witness familiarity and statement similarity within large eyewitness groups, there are a number of limitations which need to be acknowledged and which future research should seek to address in order to unpack the relationships between co-witness familiarity and blame conformity further.

The results suggest that possible interaction effects may exist between co-witness familiarity and post-event discussions; however, only unfamiliar eyewitness groups were included in the control condition in the present study. Through incorporating a 2x2 design, where both familiarity and group discussion could be manipulated, future research should aim to identify if statement similarity is predominately caused by informational influence or similarities in the way familiar co-witnesses remember events.

Although a distinct criterion was set for recruiting eyewitness groups with pre-existing relationships, the nature of each relationship - as well as duration - was not considered in the analyses. Focusing on these variables would allow future research to measure the moderating effects relationship characteristics may have on statement similarity.

The present study incorporated a single blame attribution task to measure statement similarity. Although the task was able to accurately simulate the process of eyewitness blame attribution, there were only three potential responses, meaning that there was not much room for variability in both response accuracy and statement similarity. By including additional

information from the participants' memory reports when assessing response accuracy and statement similarity, richer data with greater levels of variation could be obtained. This would allow the researchers to make more detailed comparisons between familiar and unfamiliar co-witnesses.

4.5. Conclusion

In summary, the present findings suggest that co-witnesses with pre-existing relationships are at risk of contaminating each other's statements. This could have detrimental effects on the investigation process if one of the co-witnesses were to relay false information about the event. The following suggestions are made for counteracting such effects: Kieckhaefer & Wright (2014) emphasised the importance of police officers identifying whether eyewitnesses had discussed the event with others prior to giving their statements. The present study supports this proposal; by establishing if any post-event discussion had occurred, officers will be able to form a better assessment of the statements given. Additionally, in agreement with French et al. (2008), it is suggested that police officers should attempt to identify whether co-witnesses who discussed the event had a pre-existing relationship and for this information to be taken into consideration by both investigators and those within the judicial system. It must be noted that, although inferred, there is no evidence indicating an effective intervention technique for helping eyewitnesses improve their source attribution skills when giving an eyewitness statement. Therefore, a more practical implication of the present findings and the next direction for future research to take will be to identify effective intervention techniques in reducing the rate of misinformation recall from co-witnesses.

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