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Original Citation

Mojtahedi, Dara, Ioannou, Maria and Hammond, Laura (2017) The Effects of Memory Conformity as a Function of Co-Witness Familiarity. In: *Crime, Culture and Social Harm*, 14th July 2017, York St. John University, UK. (Unpublished)

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The Effects of Memory Conformity as a Function of Co-Witness Familiarity.

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Abstract

The present study examined the effects of a co-witness familiarity on statement similarity. The study aimed to determine whether eyewitnesses were at a higher risk of conforming to co-witnesses that they were familiar with, than to unfamiliar co-witnesses. The study utilised a novel experimental paradigm in which participants viewed footage of a crime before partaking in a post-event discussion with their group. A three-way between-subjects design was used, where participants either had a pre-existing relationship with their co-witnesses, had no previous relations to their co-witnesses, or were not permitted to discuss the event with their co-witnesses (control). Participants (N=420) were placed into groups of five and viewed a CCTV footage of a crime. Shortly after, participants then took part in a post-event discussion with group members before giving individual statements. A one-way between groups ANOVA was conducted. Results indicated that a post-event discussion significantly increased the level of statement similarity with eyewitness groups, but only when the co-witnesses shared a pre-existing relationship. The results also suggested that uncertain eyewitnesses were most susceptible to co-witness influence. The results indicate that eyewitnesses are more likely to accept contradicting information from peers than from strangers. Explanations for the findings, along with implication for police interventions, are discussed.

Introduction

A large body of research indicates that a post-event discussion between co-witnesses can cause some eyewitnesses to incorporate the misinformation of others into their own memory reports, a process referred to as memory conformity (Carlucci, Kieckhafer, Schwartz, Villalba, & Wright, 2010; Davis & Meade, 2013; Garry, French, Kinzett, & Mori, 2008). Memory conformity is predominately caused by informational influence (Blank, 2009; Gabbert, Memon, & Allan, 2003; Wright et al., 2009), the process of conforming to others to obtain the correct answer (Wright, London, & Waechter, 2009). Normative influence, the pressure to conform as a means for gaining approval and acceptance from others, can also influence individuals to conform to the memory reports of others, in non-forensic settings (Wright, London, & Waechter, 2009). However, police investigators are trained to collect statements privately (Williamson, Weber, & Robertson, 2013), suggesting that within an eyewitness setting, the level of normative influence would be reduced (Deutsch and Gerard, 1955).

Despite the previous literature concordantly stating that co-witness discussions can influence individual statements, most of these studies incorporated experimental designs where the participant co-witnesses were strangers to each other (e.g. Gabbert, Memon, & Allan, 2003; Gabbert et al., 2004; Meade & Roediger, 2002). Yet in reality, reports indicate that 77% of eyewitnesses are likely to have a pre-existing relationship with their co-witnesses (Paterson, Chapman, & Kemp, 2007). Furthermore, research on informational influence suggest that individuals would be significantly more likely to accept information from a familiar person than from a stranger (Echterhoff, Higgins, & Groll, 2005; Sorrentino & Yamaguchi, 2008). Thus, there is a need for research to identify the mediating effects of co-witness familiarity on statement similarity.

The main aim of the present study was to observe the effects of a post-event discussion between groups of co-witnesses. Specifically, the researchers were focused on identifying whether the relationship between co-witnesses would have an impact on the similarity of their statements. To achieve these aims, the study comprised of three main objectives. The first objective was to establish if a post-event discussion between co-witnesses could increase the level of similarity between their statements. The second objective was to determine whether a pre-existing relationship between co-witnesses would significantly affect the level of similarity between their statements, 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.

Methodology

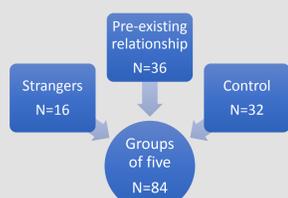
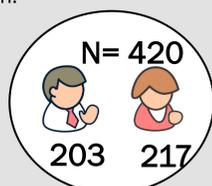
Sample: The study recruited 420 participants (203 males; 212 females; 5 undisclosed) of mixed ages (18–83 years; $M = 33.04$, $SD = 15.62$), through opportunity sampling.

Design: A one-way between-subjects design was employed, with three different conditions. Within all three conditions, participants were placed into groups of five, to represent a group of co-witnesses, leaving a total of 84 groups. Within the first condition, the participants viewed the footage with strangers, however no group discussion was permitted throughout the experiment (Control condition, $N = 32$ groups). Within the second condition, participants discussed the witnessed event with unfamiliar co-witnesses (Stranger condition, $N = 16$ groups). Within the final condition, participants discussed the witnessed event with individuals that they had a pre-existing relationship with (relationship condition, $N = 36$ groups).

Two dependent variables were measured. The first dependent variable measured was the collective statement similarity score, in blame attribution, for each co-witness group. For this variable, the 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. For instance, 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. 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.

Material: The study used a real-life closed circuit television (CCTV) footage of a bar fight erupting between two individuals. The footage lasted approximately one minute and thirty seconds. The footage depicts two men in distinctively different clothing (one man is wearing a yellow t-shirt whilst the other is wearing a dark green t-shirt) engaging in a conversation before one of the men (in the dark green t-shirt) attacks the other (in the light yellow t-shirt); shortly after, a fight erupts between the two men before they are separated.

Procedure: Participants watched the footage simultaneously in their groups on a monitor screen. After the footage had finished the second phase, 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 final phase was the eyewitness statement process. Participants were then taken into a private room individually and asked to identify who they believed had thrown the first hit. Alternatively, the participant were given the option to state that they were uncertain, if they were unable to answer the question.



Results

A one-way between groups analysis of variance (ANOVA) was conducted to explore the impact of the group condition on statement similarity. There was a statistically significant difference in statement similarity for the three experimental conditions $F(2, 39.49) = 3.3$, $p < .05$.

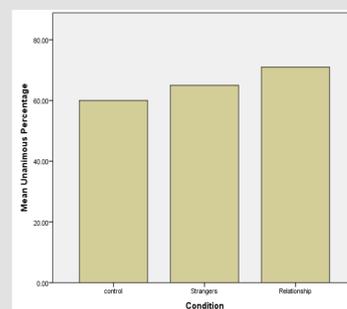


Fig. 1. Mean percentage of group statement similarity.

- Post-hoc comparisons were made using the Tukey HSD test
- Significant difference in mean scores of statement similarity between co-witnesses with pre-existing relationships and co-witnesses in the control group.
- The effect size, calculated using Cohen's d , was .62 (medium).
- No significant differences between co-witnesses with pre-existing relationships and co-witnesses with no pre-existing relationships.
- No significant differences between co-witnesses with pre-existing relationships and co-witnesses with no pre-existing relationships.

A chi-squared test was carried out to see if there was an association between group condition and response accuracy. The results found that there was a weak significant association between the experimental conditions and eyewitness blame attribution $\chi^2(6, N = 420) = 19.63$, $p < .01$, $\phi_c = .15$. An examination of the standardized residuals revealed that among the participants who had a pre-existing relationship with their co-witnesses, there were significantly fewer participants stating that they were unsure than expected.

Table 1. Percentage of participant's blame attribution accuracy between conditions

| | Correct | Incorrect | Unsure | Other ^a |
|--------------|---------|-----------|--------|--------------------|
| Relationship | 53.3% | 41.7% | 10.6% | 0% |
| Stranger | 40% | 36.3% | 23.8% | 0% |
| Control | 38.8% | 36.9% | 22.5% | 1.9% |

Discussion

The findings suggested that a post-event discussion with familiar co-witnesses could increase the risk of statement similarity. This is because individuals will have more information about their peers to gauge the accuracy of their judgment's (Forgas, 2001; Festinger, 1954; Gabbert, Memon, & Wright, 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. Hope, Ost, Gabbert, Healey, Lenton (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 would therefore be more likely to accept their information as reality.

The results also suggested that the eyewitnesses were significantly less likely to be uncertain, after discussing the event with familiar co-witnesses. The findings suggest that eyewitnesses who are more uncertain about an event will be significantly more susceptible to being influenced by others around them. This inference is supported by previous research that has identified a positive relationship between uncertainty and susceptibility to informational influence (Smith, Hogg, Martin, & Terry, 2007; Walther, Bless, Strack, Rackstraw, & Wagner, 2002).

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