THE MALLEABILITY OF EYEWITNESSES: INVESTIGATING THE EXTERNAL PREDICTORS FOR EYEWITNESS SUGGESTIBILITY

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Are eyewitnesses reliable?

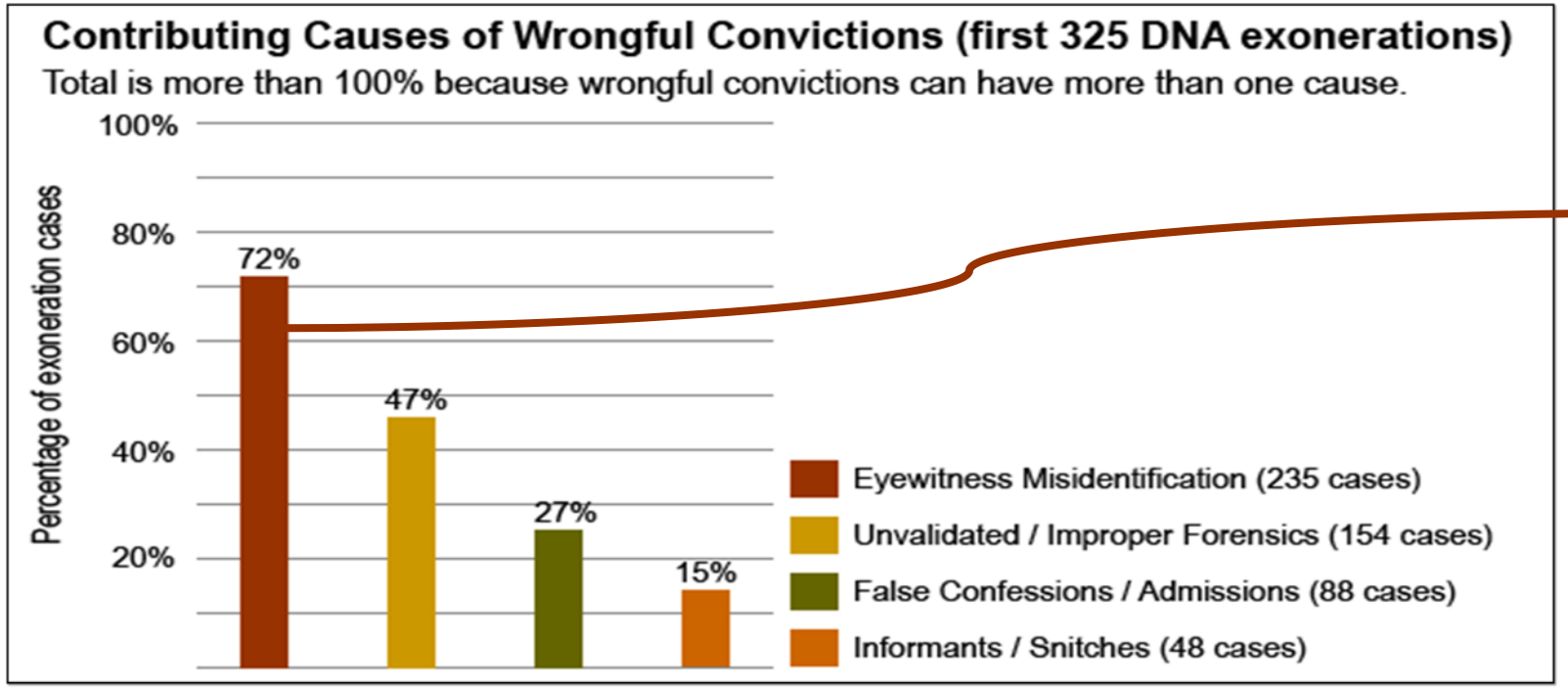
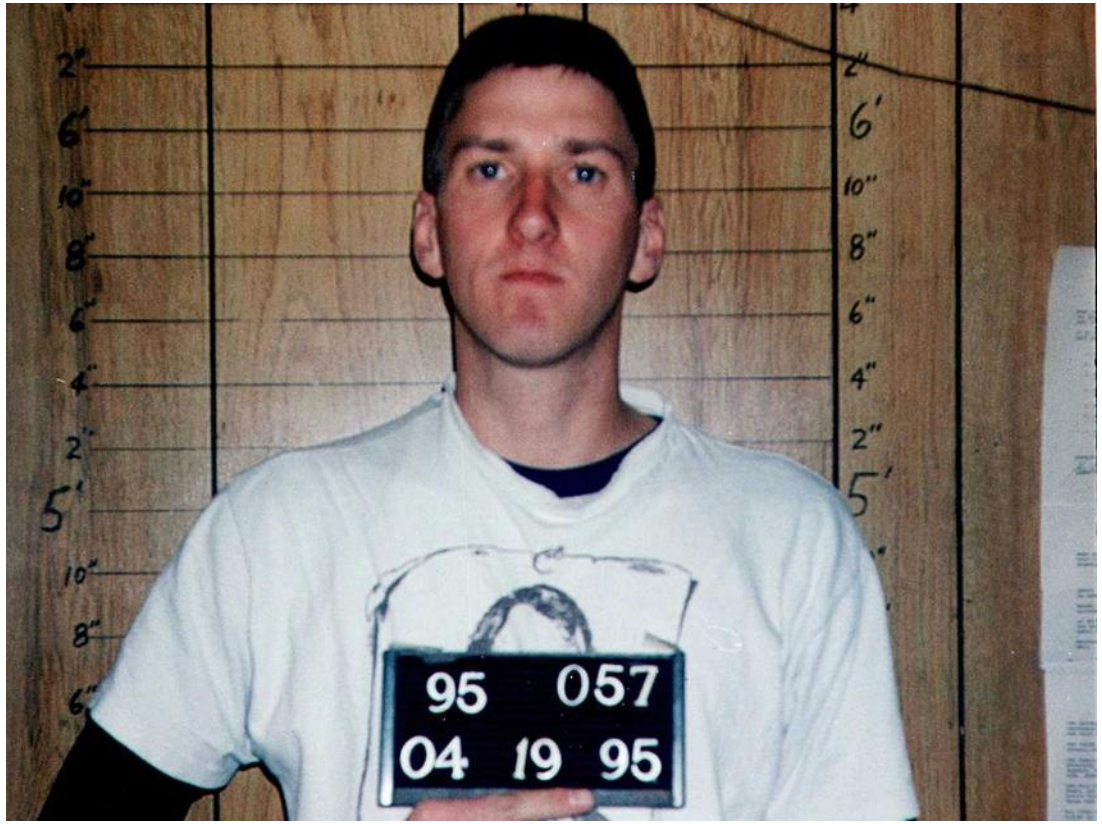


Figure 1: Contributing causes confirmed through Innocence Project research (The Innocence Project, 2015).

IN APPROXIMATELY 48% OF CASES OF MISIDENTIFICATION, THE REAL PERPETRATOR WENT ON TO COMMIT MORE CRIMES

Cardozo, (2009); Scheck, Nuefeld, Dwyer (2003)

Oklahoma Bombing (1995)

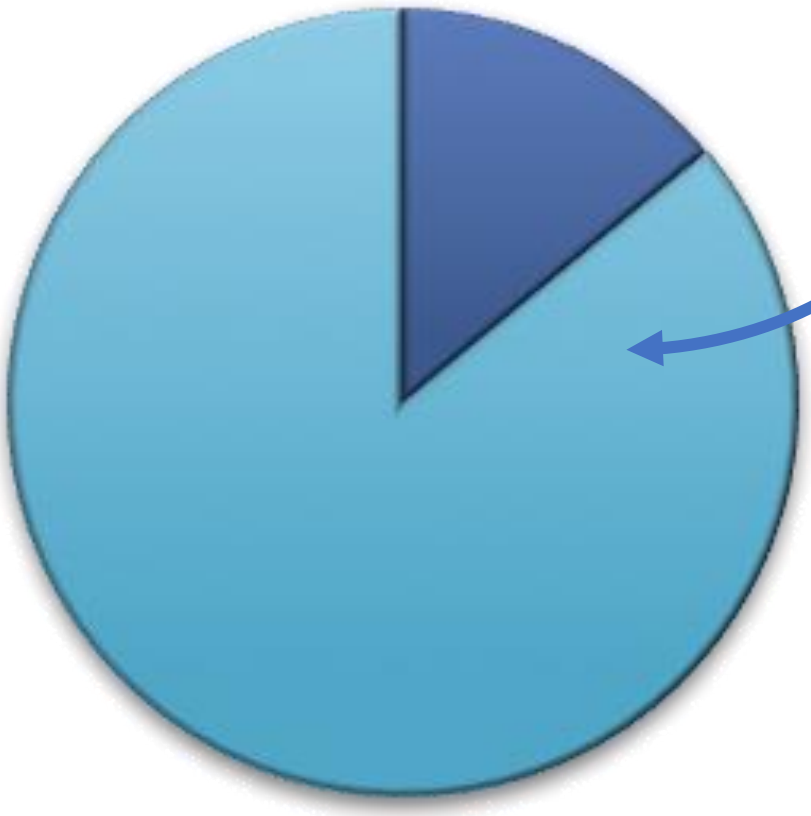


Timothy McVeigh

Oklahoma Bombing (1995)

- Three eyewitnesses had seen the suspect (Timothy McVeigh) come into the store they worked at to rent a truck (which was later used for the attack).
- Initially, two of the witnesses had reported only seeing McVeigh inside the truck; the third witness had mistakenly believed that a second accomplice was also present with McVeigh.
- After discussing the event with each other, all three witnesses had become convinced that a second accomplice was present during the event (Memon & Wright, 1999; Schacter, 2001).
- The collaborative error caused police officers to exhaust their time and resources looking for a non-existent second suspect (Skagerberg & Wright, 2008).

Co-witness discussions

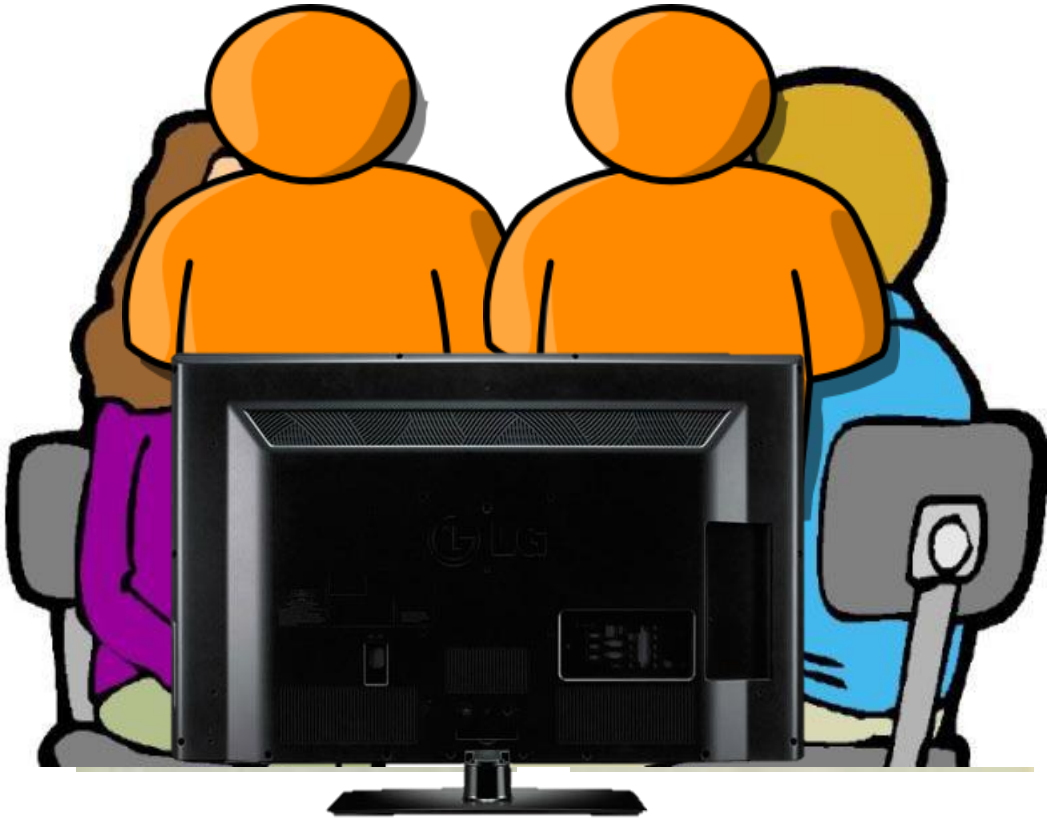


- 86% of real eyewitnesses discuss the event with co-witnesses, prior to giving a statement

- 38% of misidentification cases involved multiple eyewitnesses making a false statement.

(Paterson & Kemp, 2006a)

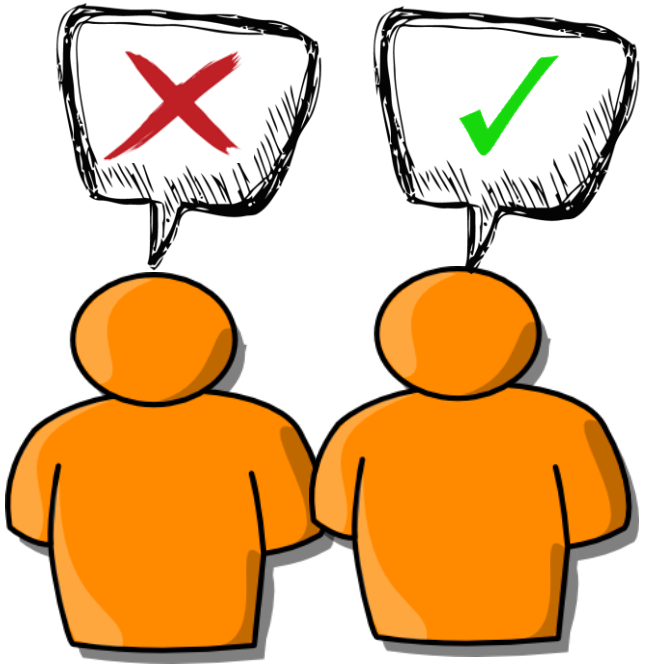
The misinformation paradigm



- Participants are paired with a confederate and asked to view an incident via a video or slideshow of pictures depicting the event.
- Sometime after, participants are asked to discuss the event with their ‘co-witness’ (confederate). The confederate will have been previously instructed to present false information about the event.
- Finally, the participants are individually questioned by the interviewer about the witnessed event.

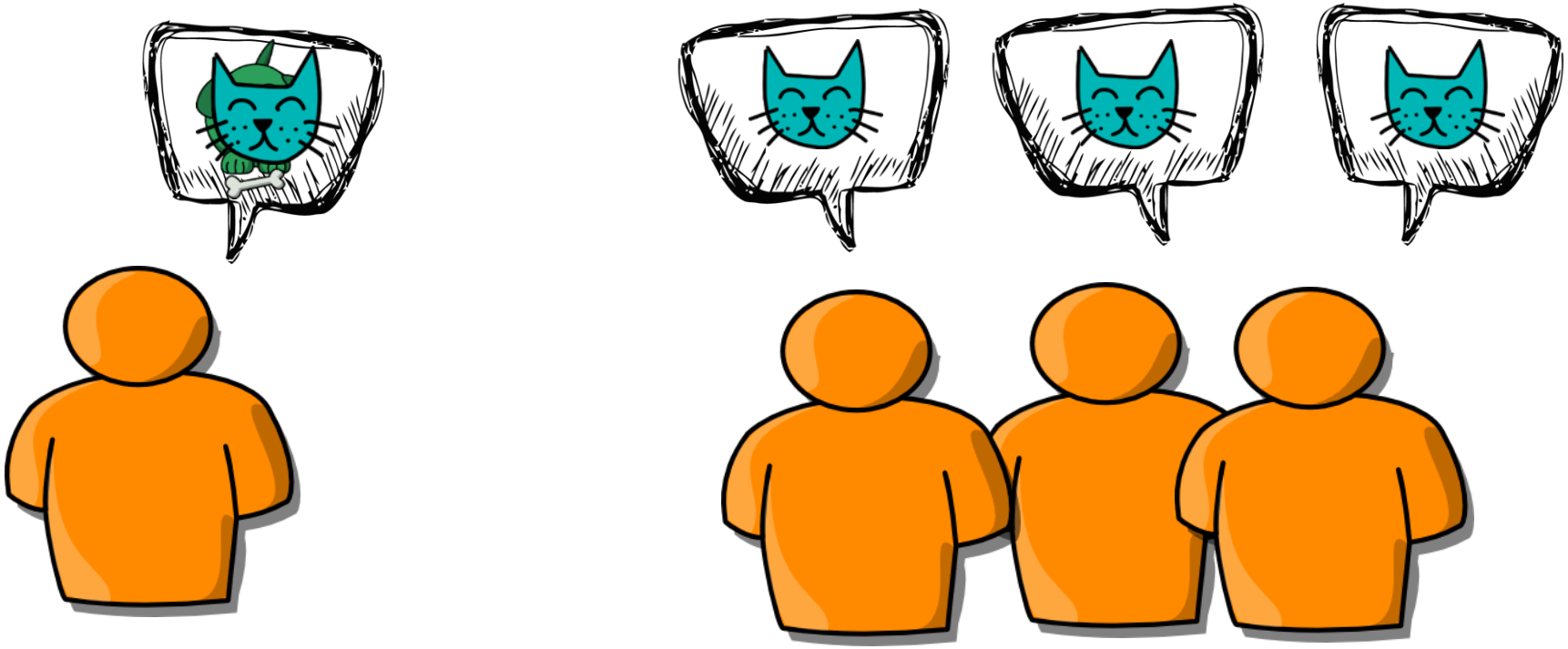
Co-witness influence

- A large body of research (see Garry et al., 2008; Paterson & Kemp, 2006b) suggests that eyewitnesses can be influenced by co-witnesses into recalling false information from an event.
- More worryingly, Thorley (2015) demonstrated that eyewitnesses could be misled by co-witnesses into attributing blame onto an innocent bystander. A phenomenon referred to as *blame conformity*.



(French, Sutherland, & Garry, 2008; Gabbert et al., 2004; Garry et al., 2008 ; Paterson & Kemp, 2006b; Thorley, 2015)

Social influence



The act of changing ones own attitudes, beliefs or behaviour to match that of a person or groups (Cialdini & Goldstein, 2004)

Different forms of Influence

Normative

Informational

Normative influence is the pressure an individual faces to conform to a majority in order to gain social approval and acceptance from the group (Hagger & Chatzisarantis, 2005).

Informational influence is when an individual obtains information from a group and accepts it as accurate information about reality (Kaplan & Miller, 1987).

Limitations of the previous research

- The majority of the research on co-witness influence has typically studied the effects of post-event discussions on eyewitness pairs, where the misinformation was presented by one person.
- However, during real criminal events, there will often be more than two eyewitnesses present (Memon, Dalton, Horry, Milne, Wright, 2016; Paterson & Kemp, 2006b; Skagerberg & Wright, 2008b).
- Bond (2005) highlighted the significance of the unanimity of misinformation and misinformation size in moderating the level of social influence an individual will be subjected to.

Misinformation size

- Research on conformity suggests that social influence is greater when presented by a larger group of individuals (Asch, 1955; Campbell & Fairey, 1989; Gerard, Wilhelmy, & Conolley, 1968; Rosenberg, 1961; Stang, 1976).
- Walther et al., (2002) investigated the relationship between group size (five versus ten) and memory conformity. Their results suggested that misinformation was more influential when presented by the larger groups.

Unanimity of Misinformation

- Theories on informational influence suggest that for misinformation to have a significant influence on the target, it must also be unanimously held by the group (Asch, 1955; Baron, Vandello & Brunsman, 1996).
- If not, the presence of a dissenter will break the chain of consensus and consequently reduce the level of influence the majority group will have on the target (Asch, 1951; Morris & Miller, 1975).
- This is because for informational influence to be effective, the target must believe that the information source is more likely to be correct than them (French, Garry, & Mori, 2011; Williamson, Weber, & Robertson, 2013).Walther and colleagues suggested that a dissenter would provide the individual with an independent view of the event, which could resultantly increase the individual's own confidence in their recollection and reduce their susceptibility to informational influence.

Present Study

- The present research study wanted to determine whether the size of the misinformation source (1-5) had an effect on blame conformity.
- In addition, we wanted to determine whether misinformation that was not unanimously held could still influence the participants.

- **(H1) An increase in misinformation size (0 to 5) would increase the risk of blame conformity.**
- **(H2) The absence of a unanimous majority would significantly reduce the rates of blame conformity.**

Participants and Design

Age Range

18-82

(*M* = 28.95 *SD* = 13.04*)*

Table 1. Group conditions (N=608).

Condition	True participants	Confederates	Total	Age	
				M	*Std Dev.*
1 (Control) (N=174)	1	0	1	35.06	17.58
2 (N=38)	1	1	2	20.92	2.69
3 (N=94)	1	2	3	24.66	7.7
4 (N=76)	1	5	6	26.91	10.29
5 (N=56)	2	1	3	26.64	8.94
6 (N= 170)	5	1	6	28.52	10.98

Material

- CCTV footage of a bar fight
- Lasted approximately 1.5 mins
- Two men in distinctively different clothing (yellow and dark green).
- Man in dark green attacks man in yellow.
- Both men then engage in a physical confrontation for forty seconds, before being separated.

METHODOLOGY: PROCEDURE

Participants were individually interviewed and asked to give a statement of what they had witnessed. They were asked to identify who had thrown the first hit. Participants were asked not to guess and to state that they were uncertain if they were unsure.

Results: Descriptive

- In the control group (condition one), 44.8% of participants produced a correct response, 34.5% produced an incorrect response, and 20.7% were uncertain, with this variance in responses suggesting the experimental task to be ambiguous.
- The high number of ‘unsure’ responses suggests that the participants will have been less likely to attribute blame through guessing.

Table 2. Blame attribution between conditions.

Condition	True participants	Confederates	Blame attribution		
			Dark Top	Yellow Top	Uncertain
1 [Control] (N=174)	1	0	78 (44.8%)	60 (34.5%)	36 (20.7%)
2 (N=38)	1	1	14 (36.8%)	16 (42.1%)	8 (21.1%)
3 (N=94)	1	2	19 (20.2%)	61 (64.9%)	14 (14.9%)
4 (N=76)	1	5	6 (7.9%)	61 (80.3%)	9 (11.8%)
5 (N=56)	2	1	26 (46.4%)	20 (35.7%)	10 (17.9%)
6 (N= 170)	5	1	80 (47.1%)	61 (35.9%)	29 (17.1%)

Results

- Multinomial Logistic Regression was used to analyze the relationship between the group condition and blame attribution. The model fit is significant, χ^2 (14) = 82.59, p < .001.
- Participants from conditions three (OR=.24) and four (OR=.08), compared to participants in the control condition, were significantly more likely to produce an incorrect response than a correct response. The measures of association were medium to very large, in accordance with Cohen (1988). The effect sizes, calculated using Cohen's d, were -.79 and -1.39, respectively.
- Participants from conditions three (OR=.45) and four (OR=.28), compared to participants in the control condition, were also significantly more likely to produce an incorrect response than an 'uncertain' response. The measures of association were small to medium, in accordance with Cohen (1988). The effect sizes, calculated using Cohen's d, were -.44 and -.7, respectively.
- Participants from condition four (OR=3.75), compared to participants in the control condition, were over three times more likely produce an 'uncertain' response than a correct response. The measure of association was medium, in accordance with Cohen (1988). The effect size, calculated using Cohen's d, was .73.

Table 3. Multinomial logistic regression predicting eyewitness response accuracy.

	Correct response [a] (*N*=223)		Unsure [a] (*N*=106)		Unsure [b] (*N*=106)	
Variable	SE	OR (95% CI)	SE	OR (95% CI)	SE	OR (95% CI)
Age	.01	1 (.98/1.01)	.01	1.01(.99/1.03)	.02	1.02(1/1.03)
Gender						
Female		1		1		1
Male	.19	1.01 (.7/1.47)	.27	1.33 (.78/2.27)	.24	1 (.63/1.6)
Condition						
1		1		1		1
2	.42	.66 (.29/1.49)	.5	1.04 (.39/2.79)	.51	1.58 (.59/4.28)
3	.32	.24 (.13/.44)***	.38	.45 (.21/.95)*	.42	1.92 (.84/4.37)
4	.47	.08 (.03/.19)***	.42	.28 (.12/.64)**	.57	3.75 (1.22/11.48)*
5	.35	.99 (.5/1.95)	.45	.95 (.39/2.3)	.24	1 (.63/1.6)
6	.25	1 (.62/1.62)	.32	.88 (.47/1.64)	.31	.88 (.49/1.6)

Note. a= Reference group: 'incorrect response' (n=279); b= Reference group: 'correct response' (n=223). OR = Odds Ratio. SE = Standard Error. 95% CI = Confidence Interval. * p<.05. ** p<0.005. *** p<0.001

Results

- The percentage of correct, incorrect and uncertain responses (dependent variable) for participants who were exposed to misinformation from two and five confederates (independent variable) were compared to determine whether the change in misinformation size influenced response accuracy.
- A 2 (two or five confederates) X 3 (correct, incorrect or ‘unsure’ response) chi-square analysis was performed. A weak, significant association was found between the two different groups and eyewitness response accuracy $\chi 2$ (2, N = 170) = 6.01, $p < .05$, $\phi c = .19$. However, an examination of the standardized residuals revealed that the critical values did not correspond to an alpha of 0.05, suggesting that the difference in responses between the conditions was small.

Discussion

- The present study found that an increase in majority size supplemented an increase in the rate of false responses and a decrease in the rate of correct responses, supporting the first hypothesis.
- It was also found that participants who were exposed to misinformation from a majority size of five confederates were over three times more likely to give an uncertain response than a correct response; suggesting that some participants were influenced by the confederates, despite not fully conforming to them.
- These observations can be best explained through the frequency-validity principle, which proposes that eyewitnesses who are repeatedly exposed to misinformation from multiple co-witnesses may be more inclined to believe that the information is valid (Fiedler, 2000; Hertwig et al., 1997).
- The results also suggested that the rate of false responses was higher when participants were exposed to misinformation from five confederates than by two; however, additional analysis indicated that this difference was small ($\phi c = .19$). This suggests that the relationship between majority size and blame conformity would start to plateau before reaching a majority size of five (see Fig. 1).
- Asch (1952) proposed that after the addition of a third information source, the target would view the group as a collective source of information rather than as individual sources; subsequently the impact of any additional sources would be made redundant.

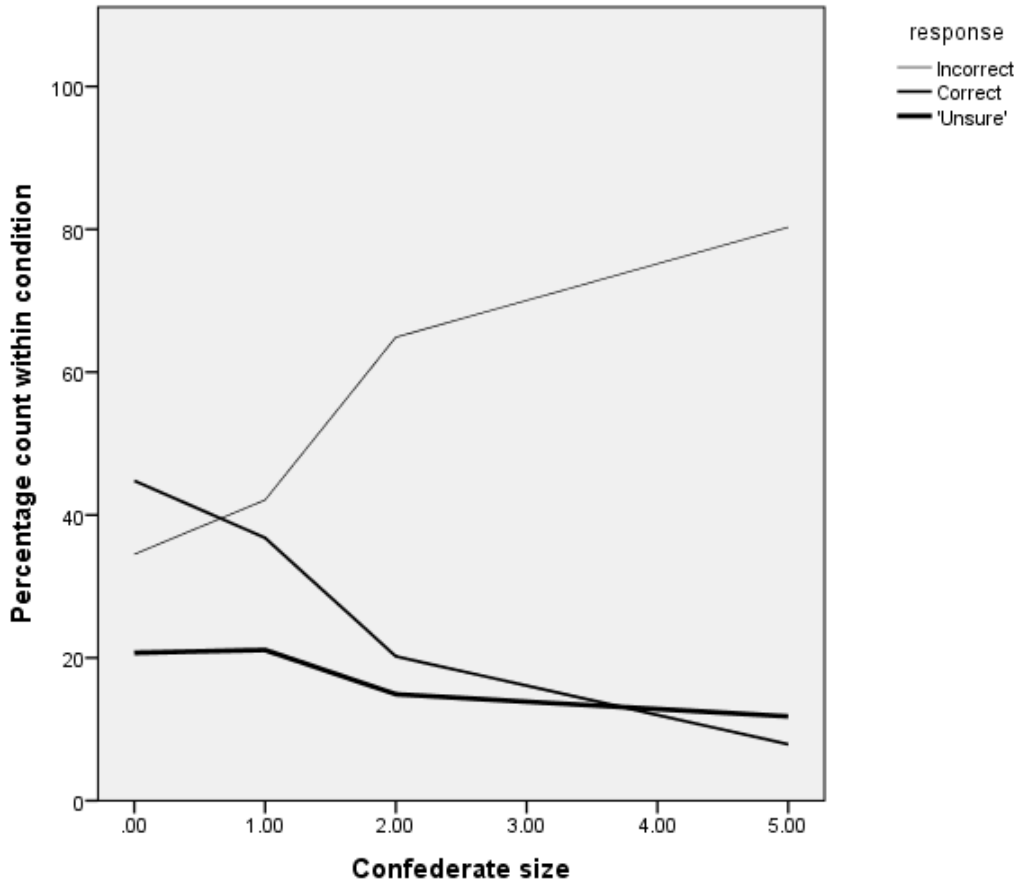


Fig 1. Blame attribution between conditions.

Discussion

- The results indicate that misinformation from one confederate had no significant influence when there were multiple true participants present.
- Participants will have been more likely to perceive misinformation from an individual source as an erroneous observation; however, when presented with misinformation from a unanimous group of co-witnesses, participants would have been less likely to deem the information as being idiosyncratic and would have been more likely to consider the misinformation as being correct (Asch, 1955).
- The presence of a dissenter would provide the individual with an independent view of the event, which could evoke an increase in doubt over the accuracy of the misinformation source and increase the individual's confidence in their original report (Festinger, 1954; Walther et al., 2002).

Limitations

- Unanimity of misinformation was manipulated by changing the number of confederates and participants. Although the inclusion of multiple participants was highly likely to break the chain of unanimity, this was not guaranteed. Participants may have still been exposed to unanimous misinformation if all of the other participants had erroneously presented a false response. Future research could use additional confederates , instructed to produce a correct response, to control for unanimity more reliably.
- The study failed to measure the effects of co-witness influence from majority groups that were not unanimous (i.e. five confederates and two true participants/dissenters); therefore, the present study cannot determine whether misinformation size would still have a mediating effect on co-witness influence if multiple dissenters were present.

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Thank you for your time

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Any Questions?