



# Intelligence, Authority and Blame Conformity: Co-witness Influence Is Moderated by the Perceived Competence of the Information Source

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## Abstract

Previous research suggests that co-witness influence is heavily dependent on how eyewitnesses perceive the source of information, with perceived credibility, authority and memory accuracy identified as significant predictors. However, very little research has directly investigated the effects of perceived intelligence on co-witness influence. The present study used confederates to expose participants ( $N = 182$ ) to misinformation about a witnessed event, prior to collecting their statements. Participants were paired up with a confederate who was presented as either a PhD student (high intelligence), police officer (high authority), neutral (no information provided) or completed the study individually (control). Results found that participants were significantly more likely to blame the wrong person for the crime if it had been suggested to them by a police officer or PhD student. Implications of the findings suggest that the characteristics and perceptions of co-witnesses can moderate the risks of statement contamination.

**Keywords** Blame conformity · Eyewitness · Memory conformity · Police

## Introduction

### Co-witness Discussions

Post-event discussions (PEDs) amongst co-witnesses are a common occurrence; one report indicate that up to 86% of real-life eyewitnesses will discuss the event with their co-witnesses prior to giving evidence (Paterson and Kemp 2006). The manifestation of a co-witness discussion can create significant problems for investigators by creating an environment where eyewitnesses are at risk of being misled by their co-witnesses into reporting inaccurate information within their statements—a process commonly known as *memory conformity* (Mojtahedi 2017; Tousignant et al. 1986; Wright

et al. 2000). This phenomenon has been extensively researched, with a consensus that exposure to misinformation during a PED can have negative effects on the memory recollection of eyewitnesses (Carlucci et al. 2010; Gabbert et al. 2004; Garry et al. 2008; Mojtahedi et al. 2017a; Mojtahedi et al. 2019; Paterson and Kemp 2006). Perhaps one of the most adverse consequences of a co-witness discussion is the possibility for memory conformity to occur when the witness is later attempting to attribute blame (Mojtahedi et al. 2017b; Mojtahedi et al. 2018a; Mojtahedi et al. 2018b; Thorley 2015; Thorley and Rushton-Woods 2013). This process of *blame conformity* was demonstrated by Thorley (2015). The study found that participants were significantly more likely to blame an innocent bystander for a crime, if their co-witness had also blamed them.

PEDs can also influence the confidence that eyewitnesses place in their statements (Semmler et al. 2004; Wright and Skagerberg 2007), which could have an impact on the witness's willingness to give evidence in court (Allwood et al. 2005; Luus and Wells 1994; Semmler et al. 2004; Skagerberg and Wright 2009). Exposure to co-witness misinformation can have varying effects on an eyewitness's confidence depending on their initial recollection of the event. Research suggests that eyewitnesses who encounter conflicting information from co-witnesses can lose confidence in their statements (Gabbert et al. 2003; Luus and Wells 1994), which in turn can weaken the validity of their statements to jurors

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(Skagerberg and Wright 2009). However, in cases where the witness already holds an incorrect recollection of the event, research suggests that exposure to confirmatory misinformation from a co-witness can elicit an increased sense of confidence (Allwood et al., 2006; Semmler et al. 2004).

### Co-witness Conformity

Social-cognitive theories indicate that co-witness conformity can be a conscious process (Gabbert et al. 2003; Gabbert et al. 2004). Eyewitnesses can use a PED with co-witnesses as a means for validating their recollection of the event (Blank 2009; Williamson et al. 2013). The exposure to the contradicting statements of co-witnesses will lead to the eyewitness either rejecting the recollection of their peers or conforming to them as a result of informational and/or normative influence (Blank 2009; Wright et al. 2009b). Normative influence is concerned with the pressures to conform for approval and acceptance from others, whereas informational influence involves the tendency to conform in an attempt to identify the correct answer (Wright et al. 2009a). Due to most eyewitnesses being aware of the implications of their statements and police investigators being trained to collect statements privately (Williamson et al. 2013), it is likely that the social pressures associated with co-witness influence will be predominantly informational. Thus, the informational influence model would suggest that eyewitnesses could be prone to conforming to their co-witnesses, if the co-witness is perceived as being more likely to be correct (French et al. 2008; Williamson et al. 2013).

Eyewitnesses will not always conform to their co-witnesses. The probability of accepting conflicting information is heavily dependent on the source from which the information comes from (Hope et al. 2008; Kwong See et al. 2001; Lampinen and Smith 1995; Ryan et al. 2018; Smith and Ellsworth 1987). Research indicates that the social characteristics of an information source can have an effect on how influential they are towards others (Betz et al. 1996; Forgas and Williams 2001). More specifically, it is the way in which the information source is perceived that affects their level of influence (Echterhoff et al. 2005; Skagerberg and Wright 2009; Williamson et al. 2013). Blank (2009) argued that informational influence heavily revolved around the credibility of the information source—an assertion that has been supported by additional research which found that participants would use the occupation of the information source to determine whether their information was likely to be correct (see Dodd and Bradshaw 1980).

Studies have also found that eyewitnesses are more likely to be influenced by co-witnesses that they have a pre-existing relationship in comparison to strangers (French et al. 2008; Hope et al. 2008; Skagerberg and Wright 2008). This observation can be attributed to differences in the level of

informational influence. Individuals who have pre-existing relationships with their co-witnesses can draw on their existing knowledge of that person to produce a better assessment of their probability of being correct (Bless et al. 2001; Festinger 1954; Gabbert et al. 2007). As a result, an eyewitness would be more likely to believe that their co-witness is correct, if there is pre-existing information to support their abilities. When faced with a co-witness who the individual has no pre-existing knowledge of, it is harder to produce an accurate assessment of their probability of being correct. However, there is evidence suggesting that not only can eyewitnesses assess the validity of an unknown co-witness, but that they may also act on these assessments and conform to the co-witness (Kwong See et al. 2001; Thorley 2015).

In such situations, individuals will often use schema-guided information about the stranger to make stereotypical assumptions about them (Carver and Garza 1984). Individuals automatically activate stereotypes when encountering strangers (Devine 1989); the present study argues that eyewitnesses can use any available social cue from a co-witness to form a stereotypical judgement of their ability to recall information accurately. The researchers propose that this estimation plays a crucial role in an eyewitness's decision to accept or reject an unfamiliar co-witness's information. Studies show that eyewitnesses are less likely to conform to unknown elderly co-witnesses due to stereotyping them as having a poorer memory retrieval system, relative to their own (Kwong See et al. 2001; Thorley 2015). Additionally, Thorley (2015) found that participants were more likely to conform to co-witnesses that were perceived as having better memory over co-witnesses that they deemed as being more reliable, suggesting that perceived competence is a greater predictor of conformity than reliability. Such studies suggest that eyewitnesses use negative stereotypes in assessing the competence of their co-witnesses. Positive stereotyping can also be used by eyewitnesses when conforming to misinformation, research shows that the voice of an information source can have an effect on how influential they are to others through the positive stereotyping between the voice of an individual and their predicted level competence (Vornik et al. 2003).

The effect of status and authority on co-witness influence is also a prominent area of focus within the literature, with various studies attempting to identify the effect an individual's perceived status has on their level of influence. The influence of police officers as misinformation sources has been used as a means of measuring the effects of authority on co-witness influence (e.g. Skagerberg and Wright 2009; Stanny and Johnson 2000; Williamson et al. 2013). The majority of the studies lie in agreement that eyewitnesses are significantly more likely to be misled by misinformation from a police officer than from an individual with a non-authoritative occupation (such as a student, Skagerberg and Wright 2009; or an

electrician, Williamson et al. 2013). The underlying cause for this ‘authoritarian’ effect however has been disputed. On one hand, people are more likely to perceive a police officer as being a more credible eyewitness than someone who is not an officer (Garrido et al. 2004), and such perceptions of credibility have previously been associated with an increase in social influence (Echterhoff et al. 2005; Hoffman et al. 2001; Kwong See et al. 2001; Smith and Ellsworth 1987). However, Williamson et al. (2013) found that despite police officers being rated as more credible eyewitnesses than non-officers, there was no significant relationship between the perceived credibility of the misinformation source and co-witness conformity. Instead, the study found that participants were more likely to conform to police officer confederates due to perceiving them as having better memory in comparison to their own. Therefore, it can be suggested that participants are more inclined to fixate on their co-witness’s cognitive abilities than their status, when attempting to validate their judgement (Skagerberg and Wright 2009).

## The Present Study

Previous research suggests that for informational influence to be effective within an eyewitness setting, the targeted individual must consciously believe that the source of misinformation is more likely to be correct than them (French et al. 2011). In order to make such an assessment, the target must actively use any social cue indicative of their co-witness’s ability to make this judgement (Williamson et al. 2013). Multiple research studies indicate that intelligence can predict eyewitness accuracy (Dent and Flin 1992; Roebbers and Schneider 2001). Research has also shown that the perceived intelligence of an eyewitness can be used by others to determine their accuracy (Brigham and WolfsKeil 1983). These findings would suggest that the perceived intelligence of an information source could have an effect on their level of informational influence; however, to date, very little research has been carried out to investigate this relationship. With regard to the previous research employing police officers as the misinformation source, the current researchers argued that the increased conformity rates to such confederates may have been primarily due to their perceived cognitive skills and not their perceived level of authority or credibility. The study chose to focus specifically on the impact of co-witness characteristics on blame conformity, as this form of co-witness influence was deemed as being one of the most detrimental consequences that could occur as a result of a PED.

Therefore, the first aim of the study was to investigate the effects of a misleading co-witness’s perceived level of intelligence and authority on blame conformity. With research suggesting that the confidence scores of witnesses could also be influenced during a PED, the second aim of the study was to

investigate the effects of a misleading co-witness’s perceived level of intelligence and authority on the confidence of eyewitnesses.

As mentioned previously, the majority of studies measuring the effects of authority on co-witness influence used an experimental design where the influence of police officers was compared to the influence of individuals with low authority (Skagerberg and Wright 2009; Williamson et al. 2013). A problem with such a design is that both negative and positive stereotyping would affect the participants. On one hand, participants may be more inclined to conform to police officers because they would deem them as having an exceptionally higher than average level of authority or cognitive ability in recalling the event. On the other hand, however, the results could have been due to the participants deeming the other confederates (especially children) as having a below-average level of authority or cognitive ability, and consequently being deterred from conforming to them. Therefore, within the present study, participants were paired with a confederate who identified as either a police officer (high authority), a PhD student (high intelligence) or was neutral (no information was provided about the confederate’s occupation or education). A preliminary survey was first carried out to determine whether these vocations were associated to high levels of authority and intelligence by the general public. Based on the findings of previous research, the following predictions were made by the researchers:

H1: Participants who encountered misinformation from a co-witness would be more likely to report the misinformation than participants who did not engage in a PED.

H2: Participants who encountered misinformation from a police officer co-witness would be more likely to report the misinformation than participants who encountered misinformation from a neutral co-witness.

H3: Participants who encountered misinformation from a PhD student co-witness would be more likely report the misinformation than participants who encountered misinformation from a neutral co-witness.

Due to a lack of existing research on the relationship between co-witness characteristics and eyewitness confidence, the second aim was exploratory in nature, and thus, no hypotheses were made.

## Method

### Preliminary Survey

Prior to the main study, a preliminary survey was carried out to determine whether the descriptions of police officer and PhD student could be used as reliable indicators of authority and

intelligence, respectively. A separate sample was used for the survey to prevent the participants' responses from the survey influencing their actions in the main study, or vice versa. A sample of 90 student participants (69 females) was recruited using an online survey host (*Qualtrics*). The survey was conducted by a post-graduate student as a filler task for a separate project. Resultantly, the age of the participants could not be determined. The survey asked participants to score police officers and PhD students on the following attributes: authority, credibility, memory accuracy, intelligence. The ratings were made using a ten-point scale (with five representing the population average and ten indicating maximum trait presence).

## Participants

The main study recruited 185 students; the sampling criterion excluded any post graduate students or police officers (past or present) from participating. Preliminary tests were undertaken to ensure that no participants had any serious visual impairments that would affect their ability to view the crime footage on a computer screen; three participants were excluded from the study as a result, leaving a final sample of 182 participants (94 males). The age of the participants ranged 18 to 30 ( $M = 21.61$ ,  $SD = 2.58$ ). Participants received course credit for their involvement.

The researchers used Tabachnick and Fidell's (2007) formula for calculating reliable sample size:  $N > 50 + 8m$  (with  $m$  representing the number of independent variables). Stevens (2009) also asserted that a minimum of 15 participants were required per predictor, when conducting a regression analysis. The researchers ensured that both sampling assumptions were met.

## Confederates

The study used confederates (presented as participants) as a method of exposing the true participants to co-witness misinformation. The experiments took place in two different locations; as a result, two volunteers were recruited to act as the confederate. To prevent the individual differences of the confederates from having a mediating effect on their level of influence, the study recruited two volunteers with similar characteristics: both were Caucasian females, aged 23. The researchers were aware that a participant's respective age and gender may have had an effect on their perception of the confederates; therefore, the present study controlled for age and gender within the analyses.

## Materials

The study used a real-life closed-circuit television (CCTV) footage of a bar fight as the experimental stimulus. The footage lasted approximately 1 min and 30 s and did not have an

audio output. The footage depicted two men in distinctively different clothing (one man wore a yellow t-shirt and the other wore 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 fight erupted between the two men before they were separated.

## Design and Procedure

A between-subjects design was employed, with participant being randomly allocated to one of four independent conditions. The conditions were used to manipulate the characteristics of the confederate with regard to their intelligence and authority, as well as the inclusion of a control condition. The first condition acted as the control group ( $n = 83$ ), and participants were not given permission to discuss the event with their co-witness. The second condition (*Neutral*,  $n = 38$ ) allowed participants to discuss the event with confederate; however, no information about the confederate's credentials were provided. The third condition (*PhD*,  $n = 32$ ) allowed participants to discuss the event with a confederate who was presented as a PhD student (indicating high intelligence). The fourth condition (*Police officer*,  $n = 29$ ) allowed participants to discuss the event with a confederate who was presented as a police officer (indicating high authority). The occupation of police officer was used due to research indicating that the occupation is significantly associated with high authority by individuals (Garrido et al. 2004; Williamson et al. 2013).

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 regard to the aims of the experiment were kept to a minimum. Depending on the experimental condition, the pairs may have been asked a specific question about their background characteristics prior to watching the crime footage to allow the confederate to be presented as being highly intelligent or authoritative. Within the *PhD* condition, participants were asked to indicate what degree they were studying (confederate was instructed to state that she was a PhD student); in the *police officer* condition, participants were asked to state what their occupation was (confederate was instructed to state that she was a police officer); no such questions were asked within the *neutral* and *control* conditions.

The participants watched the footage in their pairs on a monitor screen. After the footage had finished, the second phase (co-witness discussion) began. With the exception of the control group, participants were then allocated 1 min to discuss the footage with their co-witness. During this time, the experimenter would leave the room to eliminate their presence from affecting the participant's behaviour. The group discussions were capped at 1 min to ensure that no participant could question the confederate for a significantly longer period than another participant from a different trial. The confederates

were instructed to falsely indicate that the man in the yellow t-shirt had thrown the first hit and started the assault, in a confident manner, but were advised not to be assertive or to try to be purposefully persuasive. If they were questioned about their report, the confederates were instructed to say ‘well, that’s what I remember seeing from the video’. The confederate instructions were aligned with the scripts used in Paterson and Kemp (2006). Participants in the control groups were asked to sit silently (for the same duration), until they were called for questioning.

The next phase was the eyewitness statement process. Participants were individually taken into a private room and asked to identify who they believed had initiated the assault. Participants were advised by the interviewer to only report information that they remembered seeing and to avoid making any responses through guessing. Instead, participants were given the option to state that they were uncertain. All participants produced one of three responses: Eyewitnesses who blamed the man in the yellow top (misinformation) were scored as *incorrect*, participants who blamed the man in the dark-green top were scored as *correct*, and participants who were unable to make a blame attribution were scored as *uncertain*. Participants were then asked to provide a confidence rating for their response on a five-point scale (one indicating no confidence at all and five indicating maximum confidence). Those who answered *uncertain* were not asked to give a confidence rating due to their inability to attribute blame.

Finally, participants were fully debriefed and thanked for their participation. Post-experiment manipulation checks indicated that none of the participants showed any suspicions towards the authenticity of the confederates.

## Analysis

A series of inferential tests were conducted to compare the different experimental groups on blame attribution and confidence scores. The effect size for all significant findings was measured using Cohen’s  $d$  and interpreted in accordance with Cohen (1988).

## Results

### Preliminary Survey

A series of paired samples  $t$  tests were first carried out on the preliminary dataset ( $N = 90$ ) to determine whether individuals were likely to perceive police officers and PhD students differently in relation to credibility, authority, memory accuracy and intelligence (all factors scored out of 10). Results indicated that participants perceived PhD students ( $M = 6.88$ ,  $SD = 2.26$ ) as being significantly more intelligent than police officers ( $M =$

$5.22$ ,  $SD = 2.11$ ),  $t(96) = -7.39$ ,  $p < .001$ , 95% CI =  $-2.11$  to  $-1.21$ . The effect size for this difference was large ( $d = .74$ ). Participants also perceived police officers ( $M = 7.34$ ,  $SD = 2.16$ ) as having significantly higher levels of authority than PhD students ( $M = 3.25$ ,  $SD = 2.08$ ),  $t(96) = 13.91$ ,  $p < .001$ , 95% CI = 3.51 to 4.68. The effect size for this difference was very large ( $d = 2.52$ ). The descriptive results suggest that as well as police officers being perceived as having high levels of authority, PhD students were perceived as having lower-than-average levels of authority (see Table 1). There were no statistical differences between the two groups for credibility [ $t(96) = 0.64$ ,  $p > .05$ , 95% CI =  $-0.42$  to  $0.81$ ] or memory quality [ $t(96) = -0.14$ ,  $p > .05$ , 95% CI =  $-2.11$  to  $-1.21$ ].

The results allowed the researchers to confirm that the descriptors of police officer and PhD student could reliably be used to present the confederate as being highly authoritative or intelligent, respectively.

## Main Study

### Descriptive Statistics

The base error rate in blame attribution was relatively high with 39.8% of the participants within the control group blaming the wrong suspect (see Table 2). The researchers purposely used a difficult task to elicit some level of uncertainty amongst the participants in an attempt to reduce the possibility of a *ceiling effect*. As Table 2 indicates, the error rate increased when participants were exposed to co-witness misinformation.

Within the control condition, the confidence scores in eyewitness statements were relatively similar between correct and incorrect judgements; however, participants exposed to misinformation from a police officer or PhD student confederate seemed to have slightly higher confidence when in agreement with their confederates and lower confidence when in disagreement (see Table 2).

### Confederate Characteristics and Co-witness Conformity

Multinomial logistic regression was used to analyse the effects of the confederate’s characteristics on the participants’ blame

**Table 1** Means and standard deviations for survey results

	Police officer		PhD student	
	<i>M</i>	<i>S.D</i>	<i>M</i>	<i>S.D</i>
Authority	7.34	2.16	3.25	2.08
Credibility	6.13	2.4	5.94	2.36
Intelligence	5.22	2.11	6.88	2.26
Memory	6.38	2.1	6.41	1.95

**Table 2** Distribution of response accuracy and average confidence scores

	Answer			M confidence (S.D)	
	Incorrect	Correct	Unsure	Incorrect	Correct
Control	39.8%	42.2%	18.1%	2.94 (.93)	2.89 (1.32)
No information	44.7%	34.2%	21.1%	3.29 (1.05)	3.46 (.97)
PhD student	71.9%	21.9%	6.3%	3.48 (1.24)	2.57 (1.13)
Police officer	69%	24.1%	6.9%	3 (1.21)	2.71 (1.11)

Confidence scores for ‘unsure’ answers were excluded due to not being applicable

attribution responses, whilst controlling for the participants’ age and gender. Due to the dependant variable consisting of three outcomes (correct, incorrect, uncertain), two regressions were conducted: one with the incorrect response (yellow top; misinformation) as the reference category and one with the correct response (dark-green top) as the reference category. The analysis found that the model fit was significant  $\chi^2(10, N = 182) = 19, p < .05$ , indicating that both full models predicted significantly better, or, more accurately, than the null model

The first column in Table 3 has the outcome of ‘correct response’ compared to ‘incorrect response’ (reference category). The results suggest that the age and gender of the participants had no significant effect on their responses. With regard to the group condition, the results suggested that participants who encountered misinformation from the PhD student ( $OR = 0.28; d = -0.7$ ) or police officer confederate ( $OR = .33; d = -.61$ ) were significantly more likely to provide an incorrect response, in comparison to the participants in the control condition. The measures of association were medium for both

predictors. Exposure to misinformation from a neutral confederate did not have a significant effect on response accuracy.

The second column in Table 3 has the outcome of ‘uncertain’ compared to incorrect response (reference category). Again, the results suggest that the age and gender of the participants had no significant effect on their responses. With regard to the group condition, only the participants who encountered misinformation from the PhD student ( $OR = 0.2; d = -0.89$ ) were significantly more likely to provide an incorrect response, in comparison to the participants in the control condition. The measure of association was large. Exposure to misinformation from a police officer confederate or a neutral confederate did not have a significant effect on response accuracy.

The third column in Table 3 has the outcome of uncertain compared to correct response (reference category). Results showed that none of the predictors had a significant effect on the participants’ response accuracy.

For the second analysis, the blame attribution responses between three confederate conditions were directly compared to determine whether the change in the confederate’s characteristics influenced response accuracy. A 3 (neutral, PhD, police officer)  $\times$  3 (correct, incorrect, uncertain response) chi-square analysis was performed. The analysis found no significant association between the two variables  $\chi^2(4, N = 99) = 7.77, p > .05$ , suggesting that the differences in blame attribution between the three confederate conditions did not reach statistical significance.

**Confidence**

The confidence judgement of participants who answered correctly and incorrectly was analysed in order to determine

**Table 3** Multinomial logistic regression predicting eyewitness response accuracy

Variable	Correct response <sup>a</sup> (N = 62)		Uncertain <sup>a</sup> (N = 27)		Uncertain <sup>b</sup> (N = 27)	
	SE	OR (95% CI)	SE	OR (95% CI)	SE	OR (95% CI)
Age	.07	1.02 (.9/1.17)	.12	1.13(.95/1.34)	.09	1.1(.92/1.32)
Gender						
Female		1		1		1
Male	.34	.8 (.41/1.57)	.46	1.45 (.59/3.56)	.47	1.8 (.71/4.55)
Condition						
Control		1		1		1
No information	.45	.73 (.31/1.75)	.54	1.16 (.4/3.33)	.56	1.58 (.53/4.7)
PhD	.5	.28 (.11/.74)*	.81	.2 (.04/.95)*	.87	.7 (.13/3.83)
Police officer	.5	.33 (.12/.88)*	.81	.21 (.04/1.04)	.86	.65 (.12/3.53)

OR odds ratio, SE standard error

\* $p < .05$

<sup>a</sup> Reference group: ‘incorrect response’ (N = 93)

<sup>b</sup> Reference group: ‘correct response’ (N = 62)

whether the group condition influenced the level of confidence that participants placed in their responses. A two-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of the group condition (4) and the response (2) on their confidence. The interaction between group condition and response was not found to be statistically significant,  $F(3, 147) = 1.12, p > .05$ . There was also no statistically significant main effect found for group condition,  $F(3, 147) = 1.41, p > .05$ ; or response,  $F(1, 147) = 1.68, p > .05$ . The results therefore suggest that neither group conditions nor response had any mediating effects on the level of confidence participants placed in their responses.

## Discussion

Much of the existing literature argued that exposure to post-event misinformation could influence the statements of eyewitnesses (Gabbert et al. 2004; Garry et al. 2008; Paterson and Kemp 2006; Wright et al. 2005). In accordance with previous research, the first hypothesis predicted that participants who encountered misinformation from a co-witness would be more likely to report the misinformation than participants who did not engage in a PED. The results partially supported the first hypothesis. Participants were significantly more likely to blame the wrong person if they had encountered misinformation that suggested so during the co-witness discussion; however, this relationship was only significant when the misleading co-witness was a PhD student or police officer. Exposure to misinformation from a neutral co-witness did not seem to have a significant effect on the participants' blame attribution. The absence of blame conformity in the neutral condition can be attributed to the participants' unfamiliarity to their confederate. Research has demonstrated that when a conflict in judgement occurs between co-witnesses, individuals are more inclined to favour their own opinion over that of an unfamiliar individual, due to a lack of knowledge about their co-witness's competence (Hope et al. 2008; Mojtahedi et al. 2018b). However, within the PhD and police officer conditions, participants will have had some information to gauge their co-witness's competence towards the task.

### Perceived Competence and Blame Conformity

The increased rate of incorrect responses within the PhD condition, in comparison to the control group, suggests that many participants who discussed the incident with a PhD student had conformed to the confederate. It is proposed that participants will have used the intelligence of their co-witness as indicator of her ability to interpret and recall the witnessed event accurately. This is supported by previous research which found that intelligence was often associated with accurate memory (Brigham and WolfsKeil 1983), as well as the

preliminary survey results which found that PhD researchers were perceived as having slightly above-average memory accuracy ( $M = 6.41$ ). Moreover, it is likely that the stereotypical judgements made by these participants will have informed their decision to conform to their co-witness—a behaviour that has been demonstrated by previous research (see Kwong See et al. 2001; Thorley 2015).

Theories on informational influence suggest that for an eyewitness to conform to a co-witness, they must perceive their co-witness as being more likely to be correct than their self (French et al. 2011; Williamson et al. 2013). Therefore, the paper argues that the effects of the information source's perceived intelligence on their level of influence are relative to the perceived self-intelligence of the target eyewitness. Consequently, the relativity of this judgement offers an explanation as to why some individuals will have refrained from conforming to their co-witness, even when they were presented as being highly intelligent.

Participants who encountered the misinformation from a police officer were also more likely to make an incorrect blame attribution, in comparison to the control group. The preliminary survey results indicated that police officers were perceived as only having average intelligence; therefore, the police confederate's high level of influence must have been the result of a separate factor. Whilst not perceived as being as intelligent as a PhD student, it is possible that the police officer confederate may have still been perceived as being highly competent in correctly attributing blame, due to their occupation being highly related to the task at hand. This is supported by previous research which found that eyewitnesses were more likely to conform co-witnesses who were police officers due to perceiving them as having accurate memory (Williamson et al. 2013), as well as the preliminary survey which showed that individuals perceived police officers as having slightly above-average memory accuracy ( $M = 6.38$ ).

### Perceived Authority and Blame Conformity

Another factor that could have made the police officer confederate's more influential was their perceived level of authority. Individuals who exhibit perceptions of inferior social rank and are more likely to conform to those that they perceive as being more powerful or authoritative (Gilbert 1993). Thus, participants within the police officer conditions may have also conformed to their co-witness due to the normative pressures and compliance. However, given that the participants all provided their responses privately, the normative pressures to conform to the confederate will have been significantly reduced. Furthermore, the preliminary survey results indicated that PhD students were perceived as having a substantially low level of authority ( $M = 3.25$ ). Yet, this did not seem to have a diminishing effect on their level of influence over the participants. The findings suggest that

perceived competence may be a stronger mediator of co-witness influence than authority.

### Comparing the Level of Co-witness Influence Between the Different Confederate Conditions

Despite comparisons with the control condition indicating that exposure to misinformation from a PhD student or police officer significantly increased the rates of inaccurate responses and exposure to a neutral co-witness did not, a separate comparison between the three confederate conditions found no significant associations between any of the conditions and blame attribution; thus, the second and third hypotheses could not be supported. The findings suggest that whilst there were some observable differences in blame attribution between the three conditions, these differences were not statistically significant. Therefore, the current researchers propose that whilst co-witness influence can be moderated by the co-witnesses perceived level of competence, the size of this association may be relatively small.

### Co-witness Influence on Confidence

The results indicated that exposure to co-witness misinformation did not have any effects on the participants' confidence in their responses, regardless of whether they provided a correct or incorrect response. The findings conflict with previous research that found that eyewitness confidence could be influenced through co-witness discussions (Foster et al. 2012; Gabbert et al. 2003; Mudd and Govern 2004). A key difference between the present study and the majority of previous research within the general literature of co-witness influence was that the current study purposely used a far more ambiguous task, with only 43% of the control group attributed blame to the correct offender (see Table 2). The results from the control condition also indicate that 18.1% of the participants were unable to attribute blame to an offender. The researchers suggest that the ambiguity of the task may have caused the majority of participants to lack confidence in their attributions. Further to this, the five-point scale will have allowed many of these participants to give a confidence score of three to reflect their uncertainty towards how confident they felt—this can be seen in Table 2, where the mean confidence scores within all conditions ranged from 2.57 to 3.48. Thus, the ambiguous nature of the task at hand will have made it difficult for the analysis to accurately assess the true effects of post-event discussions on eyewitness confidence.

### Implications, Limitation and Directions for Future Research

Based on the present findings, it is asserted that forensic environments which allow co-witnesses to engage in a PED before

giving their statements will also allow the possibility for the inaccuracy of some witnesses to contaminate the statements of others—which can consequently result in investigations being misled and innocent bystanders being convicted. It is common practice within most policing organizations for officers to separate eyewitnesses prior to recording their statements (Paterson and Kemp 2006), the current findings highlight the importance of this protocol—however, it is acknowledged that such interventions cannot always be successfully implemented. The findings also highlight the importance for investigators to be able to differentiate witnessed information from post-event information, when assessing eyewitness evidence.

The study presents a step forward into understanding the cognitive thought processes behind co-witness conformity; however, it still bares several limitations that should be addressed by future research. The present study found that participants were more likely to conform to co-witnesses who were perceived as having a high level of intelligence. This was attributed to the participants believing that the co-witness was more likely to be correct than their selves. However, the participants' perceptions of their own intelligence were ignored in the analysis. A fruitful direction for future research would be to measure the perceived intelligence of the information source relative to that of the participant's. By doing so, the analysis will allow researchers to measure the effect that perceived intelligence has on co-witness influence more accurately.

There were also some issues with the way in which co-witness intelligence and authority was represented. Although existing research suggests that the indicators (education and occupation) used to manipulate these variables will have been moderately accurate (see Garrido et al. 2004; Williamson et al. 2013), individual differences in the participants' attitudes towards these characteristics may have influenced their perceptions of their co-witness's level of intelligence and credibility. Future research could measure the accuracy of these indicators by asking participants to rate the intelligence and authority of their co-witnesses directly, after the experiment. However, a limitation of this procedure is that the participants' perceptions of their co-witness could be affected after encountering misinformation from them. Finally, psychometric testing has allowed psychologists to explore how individual differences can influence the actions of individuals within interpersonal interactions (Prince et al. 2018; Willmott et al. 2017). The application of psychometric testing would allow future research to identify further trait differences that could increase a witness's susceptibility to blame conformity.

### Conclusion

The current literature surrounding eyewitness behaviour is extensive and continuously expanding with insightful and novel findings (e.g. McWilliam and Mojtahedi 2018;



Willmott and Sherretts 2016). The present study contributed to this field of research by attempting to identify whether eyewitnesses would use available information about their co-witnesses to gauge the validity of their statements. The findings indicated that participants were more easily led by co-witnesses who were perceived as being highly intelligent/competent due to an increase in informational influence. It is unclear to accurately determine whether the authority of co-witnesses had an impact on their level of influence, due to inability to determine whether participants conformed to the police officer co-witnesses due to their high authority or due to perceiving them as being generally competent.

## Compliance with Ethical Standards

**Ethical Statement** Ethical approval was sought and awarded from the primary researcher's institution's (University of Huddersfield) School Research Ethics Panel (SREP). In accordance with the school's ethical guidelines, the present study gathered informed consent from all participants. Furthermore, participants were informed of their rights to withdraw from the study at any time.

**Conflict of interest** The authors declare that they have no conflict of interest.

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