

# Influence of a Co-Witness' Status, Accuracy and Confidence Level on Witness Recollection

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#### Abstract

The purpose of this experiment was to investigate how one witness can influence another. Participants ( $N = 137$ ) watched a video of a robbery and read a witness report with variation in witness status (doctor, fast food employee), accuracy (accurate, inaccurate) and confidence level (high, low). Then participants provided an account of what happened. Participants were more likely to recall details accurately if the co-witness was accurate and were more confident when the co-witness was more confident.

#### Introduction

Sometimes a crime is witnessed by more than one person. When this happens, the co-witnesses can impact each other's memory and/or testimony significantly, simply by engaging in discussion. For example, Eisen et al. (2017) found that at longer retention intervals, participants were more likely to make mistakes and incorporate details from a discussion with a co-witness.

The purpose of the present study was to investigate further how one witness can affect another. Specifically, the effects of an eyewitness' status (doctor, fast food employee), accuracy (accurate, inaccurate) and confidence (high, low) on a co-witness' recollection of a crime was investigated. It was hypothesized that if the co-witness is of high status, highly confident and accurate, then participants will be most likely to recollect details from the crime congruent with the co-witness.

Online participants watched a 2 min. video of a convenience store robbery and then read a witness report that included the noted manipulations. Then participants provided their own account of what happened.

#### Design

The design was a 2 (witness status: doctor, fast food employee) x 2 (witness accuracy: accurate, inaccurate) x 2 (witness confidence level: high, low) between-subjects design. Participants were randomly assigned to groups.

#### Method

##### Participants

Online participants ( $N = 137$ , 52% male, 48% female) were recruited through *Mechanical Turk*. The mean age was 35.90 ( $SD = 10.82$ ). Participants were all U.S. citizens. A majority of the participants were Caucasian (79.6%), 6.6% were Hispanic, 5.8% were African American, 5.8% were Asian, less than 1% were Native American and less than 1% reported "other."

##### Materials and Procedure

Participants provided informed consent and then watched a 2 min. video of a convenience store robbery. They then read a witness report that varied in witness status (doctor, fast food employee), information about the crime (accurate, inaccurate) and witness confidence level (high, low). Participants then recalled details from the crime; they were then debriefed.

#### Results

A 3-way Analysis of Variance was conducted for each dependent variable. Due to space constraints, only significant findings will be reported.

##### What facial features did the perpetrator have?

Participants were more accurate when recalling the perpetrator's facial features when the witness provided accurate details ( $M = .84$ ,  $SD = .37$ ) rather than inaccurate details ( $M = .67$ ,  $SD = .48$ ),  $F(1, 128) = 5.57$ ,  $p = .02$ , partial  $\eta^2 = .04$ .

##### What was the perpetrator holding when he approached the counter?

Participants were more accurate when the witness was more accurate ( $M = .94$ ,  $SD = .24$ ) than when the witness was inaccurate ( $M = .69$ ,  $SD = .46$ ),  $F(1, 129) = 15.66$ ,  $p < .001$ , partial  $\eta^2 = .11$ .

##### Did the perpetrator drop any bills?

There was a significant interaction between accuracy and confidence,  $F(1, 128) = 4.37$ ,  $p = .04$ , partial  $\eta^2 = .03$ . An examination of the means revealed that when the co-witness' confidence was low, his level of accuracy didn't have an impact on the accuracy of the witness' testimony. On the other hand, when the co-witness' confidence was high, witnesses were more accurate when the co-witness was accurate rather than inaccurate (see Figure 1).

##### How confident are you in remembering what you watched?

Participants were more confident when the witness was highly confident ( $M = 8.18$ ,  $SD = 1.58$ ) than when the witness was less confident ( $M = 7.07$ ,  $SD = 1.85$ ),  $F(1, 128) = 13.92$ ,  $p < .001$ , partial  $\eta^2 = .10$ .

#### Discussion

We anticipated that if the co-witness is of a high status as well as highly confident and accurate, then participants would be more likely to recall details from the crime congruent with the co-witness. However, our findings did not support the hypothesis.

The most frequent finding was that participants answered most accurately when the co-witness was accurate. In essence, being presented with an account by an accurate witness is akin to being presented with pertinent detail twice, and this second presentation did indeed help participants' accuracy levels. For example, when asked about the perpetrator's facial features, participants were more accurate when the witness was accurate than when the witness was inaccurate. This finding is important because obtaining information regarding the facial features of a perpetrator is a crucial component of a police investigation. This finding is also congruent with Eisen et al.'s (2017) finding that false descriptions of a perpetrator by a co-witness led to an increase in participants, at longer intervals, mistakenly identifying the perpetrator in the lineup as having a tattoo. In the present experiment, individuals made errors immediately, not after a long retention. Therefore this suggests that longer periods of time are not necessary for eyewitness memory to become malleable.

The co-witness' level of confidence also affected the witness; participants were more confident when the presented witness was more rather than less confident. This finding is consistent with results obtained by Goodwin et al. (2017); participants' confidence in their own memories mirrored the confidence of their co-witnesses.

Accuracy and confidence interacted when participants were asked if the perpetrator in the video dropped any bills. Here participants were significantly more accurate when the witness was accurate and highly confident. The bills dropping in the video was a peripheral detail, therefore participants may not have focused much on this action. Hence, these findings can be explained by witness conformity. Individuals likely included this information obtained from the co-witness into their memory and it consequently influenced their ability to accurately report what they had seen.

This experiment did have limitations. For example, the external validity of this experiment was limited as reading testimony from a co-witness does not resemble the real-world experience of witnesses. Future researchers may wish to increase external validity by adapting the witness statement from a written account to a verbal account by a co-witness given in person. Researchers may also wish to explore the influence of status, confidence and accuracy of a co-witness over a period of time rather than immediately after viewing the crime. Additional research on how the memory/testimony of one witness can affect another is needed before definitive conclusions can be made.



Figure 1. Two-way interaction between accuracy and confidence for the question: Did the perpetrator drop any bills?

#### References

- Eisen, M. L., Gabbert, F., Ying, R., & Williams, J. (2017). I think he had a tattoo on his neck: How co-witness discussions about a perpetrators description can affect eyewitness identification decisions. *Journal of Applied Research in Memory and Cognition*, 6(3), 274-282. <https://doi.org/10.1016/j.jarmac.2017.01.009>
- Goodwin, K. A., Hannah, P. J., Nicholl, M. C., & Ferri, J. M. (2017). The confident co-witness: The effects of misinformation on memory after collaborative discussion. *Applied Cognitive Psychology*, 31(2), 225-235. <https://doi.org/10.1002/acp.3320>

