Final Research Report for NIJ-2018-14001

Eyewitness Identification: A Systematic Investigation of Lineup Composition and Fairness

Principal Investigators: Dr. Curt A. Carlson and Dr. Maria A. Carlson

Texas A&M University - Commerce

PO Box 3011, Commerce, TX 75429

903-468-8723

curt.carlson@tamuc.edu

Project Period: 2019-2021 (extended to end of 2022)

Award Amount: $344,515

Project Summary

Major goals and objectives

The major objective of this project was to investigate photo array composition in order to improve eyewitness identification (ID) procedures. Photo array composition involves the fillers, or known-innocent individuals that police add to a photo array so that the suspect does not stand out. An unbiased, or fair, photo array contains fillers that match the description of the perpetrator provided by one or more eyewitnesses. In contrast, in a biased photo array the suspect stands out from the fillers. Another popular ID procedure used by police is the showup, when the suspect is presented without any fillers. This project involved all three of these ID procedures. Several issues were unclear in the eyewitness ID literature regarding the ID procedure and how it interacts with other eyewitness variables, and this project addressed many of them: (a) how police should create photo arrays when the perpetrator or suspect has a distinctive facial feature (Hemby thesis, in progress; Jones et al., 2020; Pleasant dissertation, 2021), (b) filler quality (Jones dissertation, 2021), (c) interactions with how well the eyewitness remembers the perpetrator or multiple perpetrators (Lockamyeir et al., 2020, 2021; Carlson et al., 2023), (d) photo array size (Carlson et al., 2023; Wooten et al., 2020), (e) a popular theoretical explanation of the effects of photo array/lineup composition on eyewitness ID: the Diagnostic Feature Detection hypothesis (Carlson et al., 2021; Wooten et al., 2020), (f) effects of eyewitness sleep on their performance across these ID procedures (Carlson et al., in press), and (g) how potential jurors evaluate eyewitness evidence based on ID procedure (Carlson et al., 2023; Lockamyeir et al., in press). Critically, we applied signal detection theory (SDT) analysis, including receiver operating characteristic (ROC) analysis, in all experiments in order to clarify the effects of

eyewitness variables on discriminability (identifying guilty rather than innocent suspects) and response bias (willingness to choose a suspect, whether guilty or innocent).

The primary theoretical motivation came from the Diagnostic Feature Detection (DFD) hypothesis (Wixted & Mickes, 2012). According to this theory, fair photo arrays yield greater discriminability than biased photo arrays or showups through a process by which eyewitnesses compare the faces to each other and their memory for the perpetrator. This process allows the eyewitness to notice which features among the faces are more versus less diagnostic of guilt until they ultimately are likely to select a guilty, but not innocent, suspect. This process is not possible with a showup because of the lack of fillers, and it is not advantageous with a biased photo array because the fillers do not match the description of the perpetrator, making the suspect stand out from the photo array. Ideally, all fillers would match the same description as the suspect (i.e., the perpetrator's description), which would allow the DFD process to focus on characteristics unique to the perpetrator. For example, if the perpetrator was described as a white male in his early 20's with short dark hair and no facial hair, and everyone in the photo array matches this description, then the DFD process could help the eyewitness to focus on characteristics unique to the perpetrator. Let's say that the perpetrator had thick dark eyebrows and blue eyes, but these were not mentioned in the description so police could not ensure that all fillers had these characteristics. Therefore, only one person, likely to be the perpetrator, would match the description that the fillers match, and also have these features. The eyewitness would be likely to identify this person because, according to DFD, they would first see that everyone matches the general description, and so would then look for characteristics unique to their memory for the perpetrator (which could include the eyebrows and eye color). If instead the photo array contained an innocent suspect, it would be unlikely that he would have the same eyebrows and

eye color, thereby allowing the eyewitness to reject the photo array. Across hundreds of participants viewing hundreds of photo arrays, this process results in higher empirical discriminability (ability of a large group of eyewitnesses to correctly categorize guilty versus innocent suspects) for fair photo arrays over biased photo arrays and showups (e.g., Wetmore et al., 2015) and for simultaneous over sequential photo arrays because the members cannot easily be compared when presented one at a time (e.g., Mickes et al., 2012). We sought to replicate the advantage of fair photo arrays over biased photo arrays and showups, and also test DFD theory with photo arrays of different levels of fairness (based on filler similarity). Once this was established, we continued our investigation of these ID procedures while manipulating other important eyewitness variables.

Research questions

Here we list our original research questions, followed by citations of the work we produced to address them.

1) What is the effect of varying levels of photo array fairness on empirical discriminability? (Carlson et al., 2021; Jones dissertation, 2021)

2) What are the boundary conditions of photo array fairness on discriminability? Can photo arrays be too fair? Conversely, at what point is a photo array too biased toward a suspect? (Carlson et al., 2021; Jones dissertation, 2021)

3) Is the Diagnostic Feature Detection Hypothesis a useful theory of photo array/lineup fairness and empirical discriminability? Will its predictions be supported by data? (Carlson et al., 2021; Wooten et al., 2020)

4) How exactly does photo array composition (i.e., the nature of the fillers) drive fairness? (Carlson et al., 2019, 2021; Jones dissertation, 2021; Wooten et al., 2020)

5) Is it better to match fillers to the perpetrator's description or to the suspect? Which method produces the best empirical discriminability? (Carlson et al., 2019)

6) How is the confidence-accuracy relationship affected by different levels of photo array fairness? (Carlson et al., 2019, 2021)

Research design and methods

We primarily utilized between-subjects factorial designs across our experiments, randomly assigning large numbers of online participants to experimental conditions. Our participants largely came from nationwide online sampling via SurveyMonkey. As an example of our experimental procedure, participants would read an informed consent document followed by instructions about what to expect in the study. We would then present a brief vignette about a crime along with a face representing the perpetrator (depending on the study, they could be randomly assigned to different crime conditions such as good/bad view). Participants would then watch a Youtube video for a few minutes as a distractor task (along with attention check questions) prior to the eyewitness ID procedure. They would then be randomly assigned to a particular type of ID procedure, such as fair photo array, biased photo array, or showup. After their ID decision (select someone or reject), they entered their confidence on a 0-100% scale followed by demographics and a final debriefing message.

Analytical and data analysis techniques

We took three general approaches to data analysis. First, we analyzed correct and false IDs with separate logistic regression models. Second, we broke these correct and false ID rates down by confidence bin to conduct ROC analysis, thereby revealing empirical discriminability separate from response bias. Lastly, we analyzed proportion correct (correct IDs/[correct + false

IDs]) across three confidence bins (e.g., 0-50%, 51-90%, 91-100%) to assess the confidence-accuracy relationship (Mickes, 2015).

Expected applicability of the research

Here we list the potential real-world applications of our research supported by this grant:

1) Police should always use fair simultaneous photo arrays rather than showups

2) Police should select fillers based on matching the description of the perpetrator, and make sure that the resulting photo array is not too homogenous.

3) If the description mentions a distinctive feature and/or the suspect has a distinctive feature, police should replicate that feature on all members in the photo array (with Photo editing software). In addition, it may be beneficial to have some variance among the replicated features so that they are not identical. For example, if the perpetrator was described has having a scar on his cheek, then a slightly different scar could be added to the cheek of each person in the array.

4) Police do not need to construct photo arrays containing more than six individuals, and smaller photo arrays may be fine if time is short. The key is that some fillers be presented with the suspect (rather than no fillers at all), and that all fillers match the description provided by the eyewitness so that the suspect does not stand out.

5) An eyewitness who witnesses a crime with more than one perpetrator may be less accurate with their identification compared to an eyewitness who saw only one perpetrator.

6) Eyewitnesses who identify the suspect from a fair photo array and immediately support that identification with high confidence are likely to be correct (i.e., the suspect is likely to be guilty). However, there are exceptions to this general rule (e.g., perpetrator viewed at a great distance, eyewitness reports poor sleep the night before the crime)

7) When interviewing witnesses after a crime, it may be beneficial for police to ask how well they slept the night before, as those who report poor sleep may be more likely to identify an innocent suspect from the eventual array.

8) Potential jurors do not intuitively understand that biased photo arrays are problematic, nor that confidence expressed in the courtroom is not reliable, but they can learn about these issues from instructions from the court and especially an eyewitness expert in court.

Participants and other collaborating organizations

Our experiments primarily involved online nationwide samples of SurveyMonkey participants, but we also tested psychology undergraduates in our labs as well. Collaborating organizations are Hollins University (Virginia), SUNY-Oneonta, and North Carolina Wesleyan University.

Changes in approach from original design and reason for change

Our original proposal mentioned using multi-dimensional scaling and computer-generated face software such as FaceGen to control for filler similarity, but we ultimately decided to focus on real faces because of ecological validity. Through the extensive use of similarity ratings, we were able to tightly control filler similarity and photo array fairness with real faces. Moreover, by accomplishing many of our goals relatively early in the project's timeframe, we were able to expand our investigation to closely related issues of eyewitness identification, including interactions between estimator variables (e.g., how well the eyewitness remembers the perpetrator's face, how well they reported sleeping the night before the crime) and system variables (ID procedure, photo array composition and size), and how potential jurors evaluate important eyewitness ID issues such as photo array composition and eyewitness confidence.

Outcomes

Activities/accomplishments

We conducted a total of 22 experiments involving 129,479 participants providing complete data, resulting in 29 conference presentations and 10 peer-reviewed publications so far.

Results and findings (chronological)

Carlson et al. (2019). This paper addressed the issue of photo array composition and fairness with two experiments. We investigated different levels of photo array bias/fairness based on similarity among fillers and between suspect and fillers. Experiment 1 revealed that eyewitness accuracy decreases as photo array members become too homogenous. Experiment 2 indicated that police should match fillers to the description of the perpetrator provided by eyewitnesses (given a certain minimum level of detail) rather than matching fillers to the suspect.

Jones et al. (2020). This paper extended our investigation of photo array composition to perpetrators with a distinctive feature such as a black eye or scar. If eyewitnesses describe a perpetrator as having a distinctive feature, and police apprehend a suspect with such a feature, should they remove the feature or replicate it across all photo array members (with photo editing software) when constructing the photo array? We found that eyewitness ID accuracy is lower if the perpetrator had a distinctive facial feature, regardless of removal or replication (which did not differ). Moreover, the confidence-accuracy relationship was not harmed by the distinctive feature. In other words, participants who selected a suspect and immediately reported high confidence were highly accurate (i.e., likely to have chosen a guilty rather than innocent suspect), regardless of the presence of a distinctive feature at encoding (when first seeing the perpetrator) or at retrieval (the photo array).

Lockamyeir et al. (2020). For this paper we tested fair photo arrays across different distances that eyewitnesses could view a perpetrator (3, 10, and 20 m). Our two experiments replicated the typical finding of lower accuracy with increased distance, but also revealed that the confidence-accuracy relationship also can be harmed by increased distance, and that participants respond more liberally (i.e., more likely to choose a suspect regardless of guilt) with increased distance.

Wooten et al. (2020). Here we continued our investigation of photo array composition by testing showups and photo arrays containing varying numbers of description-matched fillers. In support of the Diagnostic Feature-Detection (DFD) hypothesis (Wixted & Mickes, 2012), accuracy was greater for photo arrays over showups, and accuracy did not change as photo array size increased. Specifically, photo arrays of size 3 were equivalent with photo arrays of size 6, 9, or 12.

Carlson et al. (2021). This paper featured a large experiment that tested the DFD theory in several ways, by manipulating both characteristics of the perpetrator (i.e., partial disguise like a hoodie) as well as ID procedure (showups versus photo arrays). We provided evidence supporting DFD as a powerful quantitative theory of eyewitness identification. Specifically, we confirmed DFD predictions that removing diagnostic information (e.g., hiding parts of faces in photo arrays) harms performance and that adding non-diagnostic information (i.e., showing the whole face even though the perpetrator had covered part of it) harms performance from showups more than photo arrays.

Lockamyeir et al. (2021). This paper expanded our investigation to crimes with two perpetrators rather than one, which is quite common. Across two experiments, we manipulated the number of perpetrators (1 or 2), how similar they appeared, and whether they were both seen

at the same time or separately. Results indicated that seeing two perpetrators simultaneously or sequentially harms eyewitness ID accuracy compared to seeing one perpetrator, and that two similar-looking perpetrators are not necessarily more problematic for memory than two dissimilar perpetrators.

Pleasant dissertation (2021). Here my doctoral student, Eric Pleasant, expanded upon our investigation of distinctive features (Jones et al., 2020) to those falling on the internal versus external portion of the face. For example, a perpetrator could have a scar on his cheek or his ear, or could have a distinctive nose ring versus earring. Does the location of the feature affect eyewitness memory for the perpetrator's face, and what can police do about this when constructing the photo array (i.e., remove or replicate the feature)? We found that eyewitness ID accuracy was harmed more so by a distinctive feature on an internal region of the face compared to an external region. In replication of Jones et al. (2020), there was little difference between removal and replication approaches to photo array construction.

Carlson et al. (2022) and Lockamyeir et al. (in press). These two papers were a little different from our other funded papers, as they extended our investigation of photo array composition from eyewitness identification to jurors' perceptions of the effects of photo array composition and other issues on eyewitness identification. Our first paper revealed that potential jurors do not generally perceive biased photo arrays as biased or problematic. The data from this project are available here: https://osf.io/wmhp3/?view_only=884f5b45348e4661921d2910fc5d68a7. The second paper indicated that instructions from the court or an expert witness could improve judgments by jurors regarding suspect guilt. The data from this project are available here: https://osf.io/qyrfk/?view_only=374db9d3e1fd4c8488252f7c35ace38d.

Carlson et al. (2023). Here we conducted three experiments to investigate the potential impact of self-reported eyewitness sleep (the night before a crime) on their later identification accuracy from showups as well as fair photo arrays. Previous eyewitness research indicated that sleep may not affect eyewitness identification, but the larger sleep literature clearly showed that it should. We found that the key may be sleep prior to the crime rather than sleep after the crime. Our participants who reported less or worse sleep the night before viewing a mock crime video later were less accurate for both showup and photo array identifications. Moreover, we found evidence that poor sleep could also harm the confidence-accuracy relationship. All data from this project are available here: https://osf.io/5jx8a/?view_only=fcb15e2770654eec8aa40e412004ff30.

Carlson et al. (in press). We continued our investigation of photo array composition by testing a potential interaction with memory strength in the form of exposure time to the perpetrator. We tested showups versus photo arrays of size 3 or 6, and included description-matched fillers which were of either low or high similarity with the perpetrator. In replication of prior eyewitness research, fair photo arrays (regardless of size) yielded greater accuracy than showups, and fillers of lower similarity led to greater accuracy than those of higher similarity. Critically, these effects were pronounced when memory for the perpetrator was relatively weak, but the effects were greatly diminished when memory for the perpetrator was relatively greater. In sum, photo array composition may not be as important for eyewitnesses who get a good look at the perpetrator. The data from this project are available here: https://osf.io/m9d2a/?view_only=9b27237469f64cdf91d5a285e7cb1717

Hemby thesis (in progress). This thesis by current graduate student Jacob Hemby provided another test of the DFD hypothesis. In support of this theory, we found that if a perpetrator had a distinctive feature, it is best for police to use a *replication with variance*

approach to photo array construction. In other words, rather than replicating the same exact feature (e.g., scar) on all photo array members, they should allow each scar to look a little different. This variance in the feature across photo array members encourages eyewitnesses to search for the feature that is most diagnostic of suspect guilt, thereby increasing accuracy.

Carlson et al. (in progress). This project is still underway, and involves crimes with a perpetrator and a bystander. *Unconscious transference* occurs when eyewitnesses identify a bystander rather than the perpetrator, and we are testing three different theories that attempt to explain this phenomenon. So far we have replicated unconscious transference and evidence is pointing toward either automatic processing (i.e., eyewitnesses are likely to choose the most familiar person in a photo array, even if he was an innocent bystander) or source confusion (i.e., eyewitnesses could think that the bystander committed the crime, and that the perpetrator was actually the bystander). We are finding very little evidence for a popular theory of unconscious transference known as memory blending, according to which eyewitnesses think that the perpetrator and bystander are the same person.

Limitations

There are two primary limitations to our projects, both of which involve ecological validity. First, we utilized either mock crime videos or static images of faces presented on computer screens rather than live simulated crimes. Though both of these approaches are common in the eyewitness literature, they do not elicit the same kind of stress as real-world crimes. However, the underlying memory processes involved would be the same. Second, our data came mainly from online samples of participants, which may not have the same engagement with the stimuli as laboratory participants. We argue that the benefits of increased data collection and associated statistical power outweigh the costs associated with lower external validity.

Afterall, the majority of the eyewitness literature historically has involved similarly artificial paradigms, and yet had simpler designs with far less statistical power. Lastly, our online samples were far more demographically-diverse than the mostly young, white, female, undergraduate psychology students comprising most samples in the literature.

Artifacts

List of Products (10 peer-reviewed publications so far)

2019

Carlson, C. A., Jones, A. R., Whittington, J. E., Lockamyeir, R. L., Carlson, M. A., & Wooten, A. R. (2019). Photo array fairness: Propitious heterogeneity and the diagnostic feature-detection hypothesis. *Cognitive Research: Principles and Implications, 4.* doi: 10.1186/s41235-019-0172-5

2020

Jones, A. R., Carlson, C. A., Lockamyeir, R. F., Hemby, J. A., Carlson, M. A., & Wooten, A. R. (2020). "All I remember is the black eye." A distinctive facial feature harms eyewitness identification. *Applied Cognitive Psychology, 34*, 1379-1393. doi: 10.1002/acp.3714

Lockamyeir, R. L., Carlson, C. A., Jones, A. R., Carlson, M. A., & Weatherford, D. W. (2020). The effect of viewing distance on empirical discriminability and the confidence-accuracy relationship for eyewitness identification. *Applied Cognitive Psychology, 34*, 1047-1060. doi: 10.1002/acp.3683

Wooten, A. R., Carlson, C. A., Lockamyeir, R. F., Carlson, M. A., Jones, A. R., Dias, J. L., & Hemby, J. A. (2020). The number of fillers may not matter as long as they all match the description: The effect of simultaneous photo array size on eyewitness identification. *Applied Cognitive Psychology, 34*, 590-604. doi: 10.1002/acp.3644

2021

Carlson, C. A., Hemby, J. A., Wooten, A. R., Jones, A. R., Lockamyeir, R. F., Carlson, M. A., Dias, J. L., & Whittington, J. E. (2021). Testing encoding specificity and the Diagnostic Feature-Detection theory of eyewitness identification, with implications for showups, photo arrays, and partially disguised perpetrators. *Cognitive Research: Principles and Implications, 6:14.* https://doi.org/10.1186/s41235-021-00276-3

Lockamyeir, R. F., Carlson, C. A., Jones, A. R., Wooten, A. R., Carlson, M. A., & Hemby, J. A. (2021). One perpetrator, two perpetrators: The effect of multiple perpetrators on eyewitness identification. *Applied Cognitive Psychology, 35*, 1206-1223. http://doi.org/10.1002/acp.3853

2022-2023

Carlson, C. A., Lockamyeir, R. F., Jones, A. R., & Hemby, J. A. (2022). How potential jurors evaluate eyewitness confidence and decision time statements across identification procedures and for different eyewitness decisions. *Psychology, Crime, & Law.* https://doi.org/10.1080/1068316X.2022.2038156

Carlson, M. A., Carlson, C. A., & Fitzsimmons, C. (2023). The sleepy eyewitness: Self-reported sleep predicts eyewitness memory. *Journal of Applied Research in Memory and Cognition*. https://doi.org/10.1037/mac0000076

Carlson, C. A., Lockamyeir, R. F., Wooten, A. R., Jones, A. R., Carlson, M. A., & Hemby, J. A. (in press). A stronger memory for the perpetrator may attenuate effects of the identification procedure on eyewitness accuracy. *Applied Cognitive Psychology, 1–14*. https://doi.org/10.1002/acp.4045

Lockamyeir, R. F., Carlson, C. A., Wooten, A. R., Hemby, J. A., & Jones, A. R. (in press).

Keep it simple: Concise instructions may help jurors devalue eyewitness courtroom confidence when evaluating suspect guilt. *Psychology, Crime, & Law.* https://doi.org/10.1080/1068316X.2023.2166507

Data Sets Generated

Some of our papers were preregistered on the Open Science Framework, and we included links to those datasets above (Outcomes: Results and Findings). Data will also be stored at NACJD.

Dissemination Activities (29 Conference Presentations)

2020

Carlson, C. A., Hemby, J. A., Wooten, A. R., Jones, A. R., Lockamyeir, R. F., Carlson, M. A., Whittington, J. E., & Dias, J. L. (2020, November). Testing the Diagnostic Feature-Detection Hypothesis by removing external facial features in showups and photo arrays. The 61st Annual Meeting of the Psychonomic Society (virtual).

Carlson, C. A., Hemby, J. A., Wooten, A. R., Jones, A. R., Lockamyeir, R. F., Carlson, M. A., Whittington, J. E., & Dias, J. L. (2020, October). Testing the Diagnostic Feature-Detection Hypothesis by removing external facial features in showups and photo arrays. ARMADILLO: The Southwest Cognition Conference (virtual).

Jones, A. R., Carlson, C. A., Lockamyeir, R. F., Hemby, J. A., Carlson, M. A., & Wooten, A. R. (2020, November). "All I remember is the black eye." A distinctive facial feature harms eyewitness identification. The 61st Annual Meeting of the Psychonomic Society (virtual).

Jones, A. R., Carlson, C. A., Lockamyeir, R. F., & Hemby, J. A. (2020, October). Examining photo array composition effects on eyewitness identification by varying filler similarity. ARMADILLO: The Southwest Cognition Conference (virtual).

Lockamyeir, R. L., Carlson, C. A., Jones, A. R., Wooten, A. R., Carlson, M. A., & Hemby, J. A. (2020, November). The effect of multiple perpetrators and their similarity on eyewitness identification. The 61st Annual Meeting of the Psychonomic Society (virtual).

Lockamyeir, R. L., Carlson, C. A., Jones, A. R., Wooten, A. R., Hemby, J. A., & Carlson, M. A. (2020, October). The effect of multiple perpetrators and their similarity on eyewitness identification. ARMADILLO: The Southwest Cognition Conference (virtual).

Lockamyeir, R. L., Wooten, A. R., Carlson, C. A., Carlson, M. A., Jones, A. R., Dias, J., & Hemby, J. (2020, March). The number of fillers may not matter as long as they all match the description: The effect of simultaneous photo array size on eyewitness identification. American Psychology-Law Society Conference, New Orleans, LA.

Wooten, A. R., Carlson, C. A., Lockamyeir, R. F., Carlson, M. A., Jones, A. R., Dias, J. L., & Hemby, J. A. (2020, November). The number of fillers may not matter as long as they all match the description: The effect of simultaneous photo array size on eyewitness identification. The 61st Annual Meeting of the Psychonomic Society (virtual).

2021

Carlson, C. A., Jones, A. R., Whittington, J. E., Lockamyeir, R. F., Carlson, M. A., & Wooten, A. R. (2021, April). An extension of the Diagnostic Feature-Detection hypothesis: Photo array fairness. Southwestern Psychological Association annual conference, San Antonio, TX.

Carlson, C. A., Lockamyeir, R. F., Jones, A. R., & Hemby, J. A. (2021, September). How potential jurors evaluate eyewitness confidence and decision time across identification procedures and for different eyewitness decisions. ARMADILLO: The Southwest Cognition Conference (virtually hosted by TAMUC).

Carlson, C. A., Wooten, A. R., Lockamyeir, R. F., Carlson, M. A., Jones, A. R., Dias, J., & Hemby, J. (2021, April). Another extension of the Diagnostic Feature-Detection hypothesis: Photo array size. Southwestern Psychological Association annual conference, San Antonio, TX.

Hemby, J., & Carlson, C. A. (2021, September). Can a distinctive feature be useful? Testing the effect of a replication with variance photo array on eyewitness identification. ARMADILLO: The Southwest Cognition Conference (virtually hosted by TAMUC).

Jones, A. R., Carlson, C. A., Lockamyeir, R. F., & Hemby, J. A. (2021, November). "All I remember is the black eye." Examining photo array composition effects on eyewitness identification by varying filler similarity. The 62nd Annual Meeting of the Psychonomic Society (virtual).

Jones, A. R., Carlson, C. A., Lockamyeir, R. F., Hemby, J., Carlson, M. A., & Wooten, A. R. (2021, April). The effect of a perpetrator's distinctive facial feature on eyewitness identification. Southwestern Psychological Association annual conference, San Antonio, TX.

Lockamyeir, R. F., Carlson, C. A., Jones, A. R., Carlson, M. A., & Weatherford, D. R. (2021, April). The effect of viewing distance on eyewitness accuracy and confidence. Southwestern Psychological Association annual conference, San Antonio, TX.

Lockamyeir, R. L., Carlson, C. A., Jones, A. R., Wooten, A. R., Carlson, M. A., & Hemby, J. A. (2021, November). One perpetrator, two perpetrators: The effect of multiple perpetrators and their similarity on eyewitness identification. The 62nd Annual Meeting of the Psychonomic Society (virtual).

Wooten, A. R., Munir, S., Olof, H., & Carlson, C. A. (2021, November). The influence of prior suspect familiarity on the cross-race effect. The 62nd Annual Meeting of the Psychonomic Society (virtual).

2022

Carlson, C. A., Carlson, M. A., & Fitzsimmons, C. (2022, April). The sleepy eyewitness: Self-reported sleep measures as indicators of eyewitness memory. Southwestern Psychological Association annual conference, Baton Rouge, LA.

Carlson, C. A., Carlson, M. A., & Fitzsimmons, C. (2022, October). The sleepy eyewitness: Self-reported sleep measures as indicators of eyewitness memory. ARMADILLO: The Southwest Cognition Conference, hosted by Tarleton State University.

Carlson, C. A., Lockamyeir, R. F., Jones, A. R., & Hemby, J. A. (2022, April). How potential jurors evaluate eyewitness confidence and decision time statements across identification procedures and for different eyewitness decisions. Southwestern Psychological Association annual conference, Baton Rouge, LA.

Hemby, J., & Carlson, C. A. (2022, April). Can a distinctive feature be useful? Testing the effect of a replication with variance photo array on eyewitness identification. TAMUC Annual Research Symposium.

Hemby, J. A., Carlson, C. A., & Carlson, M. A. (2022, November). Can a distinctive feature be useful? Testing the effect of a replication with variance photo array on eyewitness identification. The 63rd Annual Meeting of the Psychonomic Society, Boston, MA.

Jones, A. R., Carlson, C. A., & Lockamyeir, R. F. (2022, March). Filler selection effects on photo array fairness and eyewitness identification. The 68th Annual Meeting of the Southeastern Psychological Association, Hilton Head Island, South Carolina.

Lockamyeir, R. F., Carlson, C. A., & Jones, A. R. (2022, March). An investigation of the weapon focus effect as a function of viewing distance. American Psychology-Law Society Conference, Denver, CO.

Lockamyeir, R. L., Carlson, C. A., Wooten, A., Jones, A., Carlson, M., & Hemby, J. A. (2022, November). A stronger memory for the perpetrator may attenuate effects of the identification procedure on eyewitness identification. The 63rd Annual Meeting of the Psychonomic Society, Boston, MA.

2023

Carlson, C., Lockamyeir, R., Wooten, A., Hemby, H., Jones, A., & Carlson, M. (2023, April). Concise instructions help mock-jurors devalue eyewitness courtroom confidence when evaluating suspect guilt. Southwestern Psychological Association annual conference, Frisco, TX

Carlson, C., Lockamyeir, R., Wooten, A., Jones, A., Carlson, M., & Hemby, J. (2023, April). Better eyewitness memory may reduce the importance of identification procedure. Southwestern Psychological Association annual conference, Frisco, TX.

Hemby, J., Carlson, C., & Carlson, M. (2023, April). Can a distinctive feature be useful? Testing the effect of a replication with variance photo array on eyewitness identification. Southwestern Psychological Association annual conference, Frisco, TX.

Lockamyeir, R., Carlson, C., Wooten, A., Hemby, H., Jones, A., & Carlson, M. (2023, March). Concise instructions help mock-jurors devalue eyewitness courtroom confidence when evaluating suspect guilt. The 69th Annual Meeting of the Southeastern Psychological Association, Boston, MA.