Is Physical Evidence or Eyewitness Testimony More Persuasive in the Courtroom?

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Society for Police and Criminal Psychology
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Richard Alexander
The Riverside Rapist

- Richard Alexander was imprisoned based on eyewitness testimony.
- DNA evidence confirms that the semen sample and pubic hair found at the crime scene was not his.
- While in prison, attacks still occurred.
- After over five years in prison, he was released.
What is the topic of our study?

- When paired against each other, what evidence is more persuasive: Physical evidence or eyewitness testimonies?
Past Research Studies

- In 1979, Loftus found that eyewitness testimonies were the most persuasive evidence in the courtroom to a juror.
- In 2001, Skolnick examined the effectiveness of physical evidence and eyewitness testimony on mock juror decision making.
Past Research Studies (cont.)

- In the Skolnick study, the strength of evidence was varied. Strong evidence produced more guilty verdicts than weak evidence.

- Combining strong evidence of both types was no more effective than presenting strong evidence of either type.
Past Research Designs

- In the past, most research designs involving this topic have been designed by presenting one type of evidence at one time.
- Our design had the two types of evidence paired against each other at one time.
Our Design

- Students given written scenario of a murder case
- Scenarios differed on three factors
  - Physical evidence
    - DNA consistent with suspect
    - DNA not consistent with suspect
  - Eyewitness testimony
    - Eyewitness says suspect is the perpetrator
    - Eyewitness says suspect is not the perpetrator
  - Eyewitness familiarity
    - Familiar – Stepmother
    - Unfamiliar – Neighbor
## Design of Experiment

### Eyewitness Testimony

<table>
<thead>
<tr>
<th>DNA</th>
<th>Familiar</th>
<th>Unfamiliar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>n = 28</td>
<td>n = 27</td>
</tr>
<tr>
<td>Yes</td>
<td>n = 31</td>
<td>n = 28</td>
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</tbody>
</table>
Participants

- 230 Participants
  - Jury eligible
  - College students
- Gender
  - 35% men
  - 65% women
- Age
  - Mean = 19.73
  - Range = 17 to 27
- Race
  - 86% White
  - 7% Black
  - 4% Asian
  - 1% Hispanic
  - 1% Other
# ANOVA Source Table

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>F</th>
<th>P &lt;</th>
<th>Eta Squared</th>
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</thead>
<tbody>
<tr>
<td>Familiarity</td>
<td>1</td>
<td>2.49</td>
<td>.12</td>
<td>.011</td>
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<tr>
<td>Eyewitness</td>
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<td>8.04</td>
<td>.005</td>
<td>.035</td>
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<tr>
<td>Physical</td>
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<tr>
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<td>.38</td>
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<tr>
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<td>.002</td>
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<tr>
<td>E * P</td>
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<td>2.26</td>
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<td>0.00</td>
<td>.96</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Main Effects

- DNA (F = 101.35, p < .0001)
  - Yes: .76
  - No: .21

- Eyewitness (F = 8.04, p < .005)
  - Yes: .56
  - No: .41

- Familiarity of Eyewitness (F = 2.49, p < .12)
  - Familiar: .54
  - Unfamiliar: .44
## Results

<table>
<thead>
<tr>
<th>Eyewitness Testimony</th>
<th>Familiar</th>
<th>Unfamiliar</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>.18</td>
<td>.30</td>
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<tr>
<td>Yes</td>
<td>.68</td>
<td>.96</td>
</tr>
</tbody>
</table>
Conclusions

- DNA evidence was powerful
- DNA more persuasive than eyewitness testimony
- Would like to look at familiarity of eyewitness without DNA evidence
Limitations

- Script vs. real trial
- College students
Questions?

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