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The role of eyewitness identification evidence in felony case dispositions

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Abstract

We addressed the question of whether felony case dispositions are associated with eyewitness identification evidence. Toward this end, 725 felony cases (rape, robbery, and assault) were randomly sampled from the archives of a District Attorney’s Office in a large south-western city in the United States. Positive eyewitness identification evidence was more likely in cases issued compared to those rejected for prosecution although other case factors were associated with issuing outcomes to a larger extent. Additionally, eyewitness identification evidence was stronger in prosecuted compared to rejected cases in which eyewitness testimony was the sole evidence against the defendant. Neither the presence of multiple identifications nor non-identifications of the suspect varied across issuing outcomes. The findings are discussed in relation to additional research that is needed at the police and prosecution stages to advance public policy development with respect to the evaluation of eyewitness identification evidence.
The role of eyewitness identification evidence in felony case dispositions

The connection between erroneous eyewitness identification evidence and wrongful convictions has been the motivating force behind much research in forensic psychology (Wells, Memon, & Penrod, 2006). In analyses of cases in which inmates were later exonerated, erroneous eyewitness identification has been cited as the primary reason for the wrongful convictions (e.g., Borchard, 1933; Connors, Lundregan, Miller, & McEwen, 1996; Gross et al., 2005). Wrongful conviction cases may signal that prosecutors are not screening out cases that have weak eyewitness identification evidence. What is more, perhaps cases with eyewitness identification evidence are more likely to be prosecuted than otherwise would be the case, regardless of whether there is other case evidence to implicate the suspect.

The overarching goal of the present study was to examine the role that eyewitness identification evidence plays in felony issuing decisions. The research was carried out in one of the largest District Attorney’s Office in the United States, which serves a population equal to about 3 million people. Laboratory research has played a strong and important role in identifying factors that can affect the reliability of memory. This body of research has served as the foundation for the development of best practice guidelines for administering lineups in criminal cases (Wells et al., 2000). We have accumulated limited systematic empirical knowledge, however, of eyewitness identification evidence in actual cases in the U.S. Most of what we do know has been gathered from analyses of cases that were not randomly sampled (e.g., Behrman & Davey, 2001). Such cases may not be representative of the types of cases that prosecutors typically evaluate. Consequently, we do not know the types of cases in which eyewitness identification plays an instrumental role in implicating the suspect, whether legal officials assess the strength of eyewitness identification evidence, or whether eyewitness identification evidence affects the decision to prosecute once other case factors are taken into account. Descriptive information of this sort is important because it may profitably lead to additional studies that can further guide public policy development with respect to
improving the reliability of eyewitness identification evidence that is used to prosecute defendants. In the sections that follow, we review archival research on prosecutorial decision making and provide an overview of the factors that can affect the accuracy of eyewitness memory. The specific aims of this archival study are then presented.

**Archival Research on Felony Issuing Decisions**

Prosecutors have the discretion to determine whether a suspect will be charged and what charges the suspect should face (Bordenkircher v. Hayes, 1978). Prosecutors also have a legal and ethical obligation to protect felony suspects who are not just innocent-in-fact, but who are also innocent-in-law (California District Attorneys Association, 1996). Charges should not be filed even if the prosecutor has a personal belief in the suspect’s guilt. Rather, issuing decisions should be guided by whether the evidence in the case is legally sufficient and admissible. Previous archival research has found that felony charges are more likely to be issued if there is physical evidence to support the allegations (Albonetti, 1987; Feeney, Dill, & Weir, 1983; Jacoby, Mellon, Ratledge, & Turner, 1982; Miller, 1969; Nagel, & Hagan, 1983) and if the crime is serious, such as when a victim has been injured (Kingsnorth, MacIntosh, & Sutherland, 2002). Factors that may lead prosecutors to not file charges include: A primary aggressor has not been identified (e.g., the California Primary Aggressor Law requires a primary aggressor be identified), the suspect is thought to be innocent, or there are “interests of justice” concerns, such as the suspect will provide testimony in a more serious case (Silberman, 1978). Despite the fact that much research has been carried out examining the relationship between evidentiary factors and felony issuing decisions, little is known about the role that eyewitness identification evidence may play in prosecution.

**Eyewitness Identification Evidence and Felony Issuing**

The prosecution of cases in which eyewitness identification is the sole evidence linking the suspect to the crime may raise serious concerns. Meta-analytic reviews of the large body of laboratory research on eyewitness identification indicates that there are several factors that can
reduce the accuracy of face recognition, including: relatively shorter durations of exposure to the culprit (Shapiro & Penrod, 1986), weapon exposure (Steblay, 1992), stress (Deffenbacher, Bornstein, Penrod, & McGorty, 2004), if the culprit is of a different race than the eyewitness, a factor which is known as *own race bias* or the *cross race effect* (Meissner & Brigham, 2001); relatively longer retention intervals between the crime and the identification test (Shapiro & Penrod, 1986), and the type of procedure that is used to test the eyewitness’ memory (Steblay, Dysart, Fulero, & Lindsay, 2003). These results indicate that the validity of the eyewitness identification evidence can be influenced by the circumstances of the crime and the identification test. Arguably, therefore, legal officials should be cautious about prosecuting individuals when there is only eyewitness identification evidence to tie the suspect to the crime.

Survey research suggests that prosecutors may not be sufficiently sensitive to the factors that can affect eyewitness accuracy (Brigham, 1981). Other research finds that the reliability of eyewitness identification evidence is more favorably viewed by jurors, judges and the police compared to eyewitness memory experts (e.g., Benton et al., 2006; Magnussen, Melinder, Stridbeck, & Raja, 2009). Therefore, felony charging may be more likely in cases that have eyewitness identification evidence because the evidence persuades a prosecutor of the suspect’s guilt or because the prosecutor believes the evidence will persuade a jury of the defendant’s guilt. Only a single study, to our knowledge, has examined the role that eyewitness identification evidence plays in felony charging. The study surveyed prosecutors asking them to estimate how often they processed cases in which eyewitness identification was the critical piece of evidence linking the defendant to the crime (Goldstein, Chance, & Schneller, 1989). Prosecutors estimated on average that 3% of the time they encountered such cases. More systematic data, however, is needed to further address the association between eyewitness identification evidence and case prosecution.

Once felony charges are issued against a defendant, procedural safeguards that might be available at the trial stage to protect innocent defendants from being convicted on the basis of
erroneous eyewitness identification evidence may be ineffective. Previous research suggests that procedural safeguards, such as motions to suppress identification evidence at trial, the cross-examination of eyewitnesses, and cautionary instructions to the jury regarding eyewitness evidence (see Devenport, Kimbrough, & Cutler, 2009 for a review), may not adequately protect defendants who have been mistakenly identified. Furthermore, most defendants in the criminal justice system are convicted on the basis of a plea bargain agreement (Piehl & Bushway, 2007; Lynch, 1999; U.S. Department of Justice, 2001), and as such, the reliability of the eyewitness identification evidence will not be evaluated by a judge or a jury in the vast majority of cases. Thus, there is a need to describe the extent to which eyewitness identification evidence plays a role at earlier stages of the criminal justice system, such as at the arrest and prosecution stages.

Goals of the Present Study

In the jurisdiction under study, the Uniform Crime Charging Standards (1996), hereafter referred to as UCCS, provide basic criteria to assist prosecutors in determining whether a suspect should face felony charges. The criteria are not legally binding and are meant to assist prosecutors in their exercise of discretion. The criteria recommend prosecutors charge a case only when the following four basic criteria are met: 1) the evidence shows suspect is guilty of the crime to be charged, 2) there is legally sufficient and admissible evidence corpus delicti, whereby the prosecutor can reasonably argue that a substantial crime—affecting significantly the personal or property rights of others—has been committed, 3) there is legally sufficient and admissible evidence of the suspect’s identity, and 4) there is a reasonable probability of a conviction in view of the evidence and the foreseeable defense that could be raised.

Given this background, we tested whether charges were issued more often when a case had eyewitness identification evidence, all else being equal. Cases that were forwarded by the police to the District Attorney’s Office for prosecution were analyzed to examine the relationship between felony issuing decisions and case characteristics, including suspect, crime, and eyewitness factors.
The factors recorded from the case file included: physical evidence, crime severity, prior record, arrest at the scene of the crime, suspect admittance to the crime, and eyewitness identification evidence.

The second aim was to test whether the quality of identification evidence varied in relation to felony issuing outcomes. The U. S. Supreme Court has established criteria, which are commonly referred to as the Biggers criteria, for inferring the accuracy of an eyewitness’ identification (Neil v. Biggers, 1972). The Biggers criteria are: the degree to which the eyewitness paid attention to the culprit, the length of time between the crime and the identification test, the eyewitness’ identification certainty, the quality of the view that the eyewitness had of the culprit, and the degree to which the suspect matches the eyewitness’ description. Previous research has indicated that layperson evaluations regarding the validity of eyewitness evidence relate to the Biggers criteria in a summative fashion (Bradfield & Wells, 2000). The present study extended this work by testing whether cases that are issued for felony prosecution are perceived to have stronger eyewitness identification evidence compared to those that are rejected. The degree to which the Biggers criteria allow for making a strong inference about the accuracy of an identification has been called into question by psychologists (e.g., Wells & Murray, 1983). Therefore, it is important to point out that we are not endorsing the use of these criteria for establishing eyewitness identification strength. Rather, the aim is to test whether these factors might influence prosecutor perceptions of eyewitness identification evidence strength.

The third aim was to test whether eyewitness identification evidence is stronger in cases in which eyewitness testimony served as the sole evidence against the suspect. The UCCS provide further guidance to prosecutors regarding cases in which eyewitness testimony is the sole evidence linking the accused to the crime. The UCCS advise that in such cases the prosecutor should generally charge only when: 1) there is no opportunity for mistake because the eyewitness(es) know the suspect, 2) the eyewitness(es) had a substantial opportunity to have observed the culprit, 3) the
investigative standards have been satisfied and the eyewitness(es) can furnish an adequate
description of the accused, and 4) a line up has been conducted.

In light of these guidelines, we tested whether cases in which eyewitness identification evidence
was the sole evidence against the suspect had stronger eyewitness identification evidence than other
cases. Additionally, we examined whether photo arrays were more common in eyewitness
identification only cases. In particular, the rate of prosecution was compared for cases that had live
showup compared to photo array identifications. In a live showup procedure, the police present a
single suspect *in vivo* to the eyewitness for identification at the scene of the crime, whereas in a
photo array procedure, the suspect’s photograph is presented to the eyewitness imbedded among
photographs of distractor persons. The validity of a suspect identification from a live showup is
more difficult to assess compared to a suspect identification from a photo array. A positive
identification from a showup may result from guessing alone, whereas the odds that a suspect is
identified from a photo array based on guessing alone are reduced by virtue of there being distractor
persons (Steblay et al., 2003). If prosecutors scrutinize the strength of eyewitness identification
evidence in deciding whether to issue charges, then perhaps charges are issued more often in cases
that have photo array compared live showup identification evidence.

The fourth and final aim was to test whether prosecuted cases were more likely than rejected
cases to have multiple eyewitnesses that identified the police suspect. The likelihood that the
suspect is guilty should theoretically increase as the number of positive identifications in a case
increases. Additionally, Clark and Wells (2008) demonstrated that non-identifications of the suspect
affect the odds that the suspect is guilty to a larger extent than do multiple positive identifications.
In view of their findings, we also tested whether non-identifications of the suspect covaried with
prosecution outcomes.

Finally, the analyses of the cases were conditioned on whether any of the eyewitnesses had been
previously acquainted with the suspect. Stranger cases, in which none of the eyewitnesses are
acquainted with the perpetrator, arguably carry a greater risk of wrongful conviction because of mistaken eyewitness identification. However, cases that involved an identification of the suspect by an acquaintance were not excluded from the sample because even in acquaintance cases the defendant may have been mistakenly identified. To illustrate, eyewitness experts are called to testify by the defense about eyewitness errors in cases in which the suspect was positively identified from a lineup or a showup by an acquaintance (e.g., Ford v. Cockrell, 2004; McMullen v. State of Florida, 1998; People v. Aguilar, 2008; People v. Cummings, 2009; People v. Figueroa, 2008; People v. Guerra, 2009; People v. Hernandez, 2004; People v. Ledesma, 2006; People v. Lopez, 2004; People v. Magana, 2003; People v. Robles, 2009; People v. Rountree, 2005; People v. Rubalcava, 2005; People v. Trujillo, 2009; Smith v. Smith, 2003; State of Washington v. Riofta, 2003; United States v. Burton, 1998; United States v. James, 2001). Although the eyewitness was acquainted with the defendant (e.g., lived in the same neighborhood, went to the same high school, lived in the same building) at issue in these cases was whether the eyewitness’ perception of the culprit was affected by variables such as stress, the presence of a weapon, or the witness being of a different race than the defendant. Additionally, inclusion of acquaintance cases is needed in order to calculate the overall prosecution rate for stranger cases in which eyewitness identification evidence is the sole evidence implicating the suspect.

Method

Case Selection

Felony cases (rape n = 302, robbery n = 239, and assault n = 184) were randomly sampled from the District Attorney’s closed (no appeal pending) case archives (1991-2000), which included cases that the DA accepted or rejected for prosecution (36% of the cases sampled were rejected). The sample was comprised of adult suspects that had been arrested for violating specific sections of the California Penal Code.\(^1\) Basing the sampling scheme on specific sections of the Penal Code ensured that the cases within a given crime category were relatively homogenous with respect to
perpetrators and victims. For example, none of the rape cases included child victims or statutory rape allegations. These crime categories were selected because they are violent felonies and were thought likely to have eyewitness identification evidence.

The arrest rates for rapes (45%), robberies (34%), and assaults (72%) for this city during the study period were comparable to national arrest rates (51%, 25%, and 56%, respectively) (U. S. Department of Justice, Federal Bureau of Investigation, 1996). Moreover, with respect to issuing decisions across the cases in the population from which we sampled, we determined that the prosecutor issued felony charges 56% of the time in rape and 88% of the time in robbery, which is comparable to previous estimates (U.S. Department of Justice, 1998) of prosecutorial charging rates (54% and 73%, respectively); the prosecution rate for assault was 68%, which is a rate that is higher than a previous estimate (34%) (U.S. Department of Justice, 1998).

Among prosecuted cases \( n = 465 \), 73% of defendants pleaded guilty, 16% of defendants went to trial (84% were found guilty on one or more charges), and all charges were eventually dismissed for the remaining 12% of defendants. Defendants were convicted on average of 43% \( (M = 0.43) \) of the original charges \( (SD = 0.35; \text{ range: } 0.00-.1.00, \text{ Median } = 0.33) \).

**Materials**

A case file typically contained police records, the preliminary trial transcript, the probation officer’s assessment of the defendant’s personal history and the sentencing agreement. A total of 46 research assistants coded the cases and were provided with detailed (written and verbal) instructions, as well as a number of practice cases to code. The reliability of the coding was examined by having more than one person code a random subset of the cases in the sample, as well as by having the first author on the study check every coding form for consistency and completeness. As might be expected given the basic level of coding, agreement between coders was extremely high (e.g., 100% for crime type, 100% for eyewitness identification procedure type; 100% for both eyewitness and suspect race; 98% for identification retention interval; 96% for
physical evidence). Disagreements were resolved between coders before the data were entered for analysis.

**Measures**

Felony case issuing served as the primary outcome measure, with felony charges filed by the DA in 68% of the sampled rape cases, 73% of sampled robbery cases, and 45% of sampled assault cases. The predictors coded included suspect, crime incident and eyewitness variables.

The suspect characteristics coded were: Suspect age (continuous variable), gender (man = 1 or woman = 0), race (White =1 or Non-White = 0) and whether the suspect had any prior felony convictions (yes = 1 or no = 0). Crime incident factors that were coded included: crime type, (rape, robbery, or assault); suspect admittance to the crime (yes = 1 or no = 0); physical evidence implicating the suspect (0 or 1, with 0 indicating no evidence and 1 indicating there was at least one piece of physical evidence, including: stolen property recovered, the weapon was found, biological evidence matched suspect); whether the suspect was arrested at the crime scene (yes = 1 or no = 0); and crime severity (0 or 1, with 1 indicating cases in which the victim was injured and/or the perpetrator used a weapon).

The eyewitness variables that were analyzed included: whether any identification procedure had been conducted (yes = 1 or no = 0); whether any positive identification of the suspect had been made by an eyewitness (yes = 1 or no = 0); whether there were any eyewitnesses in the case who did not identify the suspect when given the opportunity (yes = 1 or no = 0); the number of eyewitnesses in the case who made a positive eyewitness identification; the proportion of eyewitnesses who made a positive eyewitness identification; type of identification procedure conducted (live showup, photo showup, photo array, both showup and photo array, or other); and whether the suspect was a stranger to all of the eyewitnesses in the case (yes = 1 or no = 0). We also coded whether all of the eyewitnesses in the case were of a different race than the culprit (yes = 1 or
no = 0) because Gross et al. (2005) found that cross race identification errors were common in erroneous convictions (c.f. Flowe, Finklea, & Ebbesen, 2009).

Six measures related to the Biggers criteria for evaluating the strength of an eyewitness identification were derived from the files, including whether the eyewitnesses viewed the culprit from head on (as opposed to having only a side or back view of the culprit), proximity of the eyewitness(es) to the culprit, retention interval length between the crime and the identification test(s), lighting conditions during the crime, eyewitness identification confidence, and the degree to which the eyewitness description(s) matched the suspect. Each of these indicators, which are described in detail below, was derived from the files as a dichotomous variable to reflect the memory strength that might be expected given the circumstances; data were coded as 1 or 0, with 1 reflecting the expectation that memory strength would be relatively better under the given circumstance. Descriptive statistics for the raw data on which the coding of the strength indicators was based are presented in Table 1.

If all of the eyewitnesses in the case viewed the culprit head on, the case was assigned a value of 1; otherwise, the case was assigned to a 0 to indicate that the viewing angle was from only the back or the side of the culprit for one or more of the eyewitnesses. For the proximity variable, if more than one eyewitness was tested in a case, the median value across the eyewitnesses in the case was computed to measure proximity; when proximity was averaged across all suspects, the median was 1 foot. Cases in which the identifying eyewitness(es) were a foot or less away from the culprit were assigned a value of 1, indicating that the eyewitnesses were close in proximity to the culprit, whereas the remaining cases were assigned a value of 0 to indicate that the culprit was relatively more remote for one or more of the eyewitnesses. If the information needed to code proximity was not explicitly provided in the report, the coder estimated the value of the variable if there was adequate information for so doing in the eyewitness’ statement to the police.
Cases in which the eyewitness(es) attempted an identification of the culprit within 24 hours of the crime were assigned a value of 1, indicating a relatively short retention interval length, and cases in which the identifications took place more than 24 hours after the crime were assigned a value of 0 to indicate a longer retention interval length. The lighting conditions the eyewitness(es) had while viewing the crime were coded based on the police report for every case. If the crime took place either outside in broad daylight or inside in a well-lit room, the case was assigned a value of 1. Otherwise, if the crime took place outside in the dark, under street lamps, or in a dimly lit or darkened room, the case was assigned a value of 0. If all of the eyewitnesses in the case made a statement indicating that they were certain about their identification of the defendant (as opposed to indicating that the defendant resembled the culprit to some degree but they were not certain he or she actually was the culprit), the case was assigned a 1 to indicate that all of the eyewitnesses were confident in their identifications. If any of the witnesses was not positive, the case was assigned a 0 to indicate that the eyewitness(es) were relatively less confident.

Eyewitness descriptions of the suspect were obtained from the police crime incident report, which has a standard section for collecting 22 descriptors of the culprit’s physical appearance (e.g., age, gender, race, height, weight, build, eye color, hair color, hair length, hair type, hair style, facial hair, complexion). The data are collected in a recognition format, as every physical descriptor is accompanied by response options on the form. For instance, with respect to the build of the suspect, eyewitnesses can indicate whether he is stocky, muscular, thin, etc. When the suspect is arrested, the police complete an identical description checklist on the arrest report. The correspondence between the description of the culprit given by the eyewitness and the description of the suspect given by police was determined for every descriptor (match versus no match) and the average degree of correspondence was determined for every witness. If there was more than one eyewitness in the case who gave a description of the suspect, the correspondence scores were averaged across eyewitnesses to create a single measure of description correspondence for each case. The data across cases were then subjected to a median split (median = 75% correspondence). Cases that were
equal to or above the median were scored a value of 1 to indicate a relatively high degree of correspondence between the eyewitness descriptions and the suspect, whereas the remaining cases were scored a value of 0 to indicate a low degree of correspondence.

Overall eyewitness identification evidence strength was computed for every case by summing across the individual strength indices. Scores could range from 0 to 6, with 6 indicating the highest degree of strength possible on the scale.

Cases that pose the greatest risk for erroneous conviction based on mistaken eyewitness identification were identified using the following criteria. First, cases in which none of the eyewitnesses were previously acquainted with the defendant (i.e., stranger cases) were identified. Second, within the subsample of stranger cases, cases that had eyewitness identification evidence alone and cases that had eyewitness identification evidence with limited corroboration were identified. Cases that had eyewitness identification evidence alone were defined as cases that did not have any physical evidence or any suspect behavioral evidence that might be indicative of guilt, including admittance to the current offense and/or a prior felony conviction. Cases that had eyewitness identification evidence with limited corroboration were defined as cases that did not have physical evidence but that did have suspect behavioral evidence that might be indicative of guilt, including admittance to the current offense and/or a prior felony conviction.

Results

Preliminary Results

Suspect and Crime Incident Profile. Table 2 provides descriptive characteristics for each crime category and for the overall case sample (see Total column). With respect to the overall sample, suspects were typically male (93% of cases), 29 years of age (range: 16-79 years), and were about equally likely to be White (30%), Black (33%), or Hispanic (32%) (6% were classified as Native American, Asian or as belonging to other racial categories). More than half of the suspects had a
previous felony conviction (range: 0-22 felony convictions) and the majority (67%) were acquainted with one or more of the eyewitnesses in the case.

Felony charging was positively associated with the suspect having a prior felony conviction. Not surprisingly, given the crime categories coded, most often the criminal action in question was severe, as 69% of the suspects were alleged to have used a weapon and/or to have injured a victim. Cases that were accepted for prosecution were more likely to have severe circumstances compared to rejected cases. About half of the cases had physical evidence that tied the suspect to the crime, and the presence of physical evidence was associated with an increased likelihood of prosecution. In one-third of the cases the suspect admitted to the crime. Admittance to the crime was positively associated with prosecution in only rape cases.

A total of 237 defendants were classified as stranger cases. For 153 of these defendants (64%) there was at least one eyewitness who was given an identification test. 7% of the stranger cases (16/237) were eyewitness identification alone cases, and the suspect was charged with a felony 56% of the time (9/16). Among these defendants, 6 pleaded guilty, 1 was found guilty at trial and the charges were dropped in 2 cases. An additional 20% of the stranger cases (48/237) were eyewitness identification evidence with limited corroborating evidence cases. Felony charges were issued in 83% of these cases (40/48). Among these defendants, 31 pleaded guilty, 8 were found guilty at trial and the charges were dropped in 1 case. Therefore, across cases in which the suspect was prosecuted (n = 465), 2% (16/465) were eyewitness identification alone cases, and 9% (40/465) were eyewitness identification evidence with limited corroborating evidence cases.
Eyewitness Identification Evidence Profile. Table 2 also presents the proportion of cases for which any positive identification of the suspect was made, whether by an acquaintance or a stranger. Across the sample, one out of every three suspects had positive ID evidence in their case. Having had at least one positive identification of the suspect by an eyewitness was positively associated with felony issuing for every crime type.

An identification test was likelier under the following circumstances: there was physical evidence implicating the suspect \((r = 0.10, p < .05, \text{two-tailed})\); the suspect had a prior record \((r = 0.13, p < .0001, \text{two-tailed})\); the suspect did not admit to the crime \((r = 0.13, p < .0001, \text{two-tailed})\); none of the eyewitnesses knew the suspect \((r = 0.38, p < .0001, \text{two-tailed})\); all of the eyewitnesses were cross race with respect to the suspect \((r = 0.23, p < .0001, \text{two-tailed})\); and the suspect was caught at the crime scene \((r = 0.38, p < .0001, \text{two-tailed})\). None of the other suspect or crime incident factors were associated with whether an identification test was performed.

Table 3 provides additional information about the characteristics of the identification tests, conditioning the results by acquaintance \((n=120)\) versus stranger \((n=153)\) ID cases. Suspects presented for identification appeared largely in live showups followed by photo arrays for both stranger and acquaintance cases.

Eyewitness Evidence and the Decision to Prosecute as a Felony

Table 4 reports the findings from two separate models that examine the likelihood of prosecution in relation to suspect, crime incident, and eyewitness variables. A separate model was performed for stranger and acquaintance cases. Logistic regression analysis was employed since the outcome variable is dichotomous (Hosmer & Lemeshow, 1989). The eyewitness evidence variable included in the analyses was whether there was a positive identification in the case because the univariate results indicated that this eyewitness measure was the one that was most strongly related to case issuing outcomes. As the number of cases was not large, the variables included in the analysis were only those that were found to have a strong univariate relationship with case issuing (see Table 2).
Crime type was also entered into the models using reference cell coding, with robbery as the reference category. Robbery was designated as the reference category because the descriptive analysis presented earlier (see Table 2) indicated that the characteristics of assault and rape cases were more similar to each other than they were with robbery cases.

**Stranger Cases.** A model with the predictors significantly fit the data better than a model without any predictors, $\chi^2(7) = 73.92, p < .01$. The odds that a suspect was charged with a felony were about 8 times higher if the suspect had a prior record. Admittance to the crime and physical evidence also increased the odds that the case was prosecuted. Felony charges were less likely to be brought in assault compared to robbery cases; felony issuing did not differ for rape compared to robbery cases. Positive eyewitness identification evidence was associated with an increase in the odds that a case was prosecuted, but the association was not significant ($p = .14$). The overall model correctly predicted 55% of cases that were rejected and 97% of cases that were prosecuted.

**Acquaintance Cases.** A model with the predictors significantly fit the data better than a model without any predictors, $\chi^2(7) = 224.92, p < .01$. The odds that a suspect was charged with a felony were over 5 times higher if the suspect had a prior record. Severe allegations, admittance to the crime, and physical evidence also significantly increased the odds that the case was prosecuted. Eyewitness identification evidence significantly increased the odds that a case was prosecuted. Felony charges were less likely to be brought in assault compared to robbery cases; rape did not differ from robbery case issuing. This model correctly predicted 67% of cases that were rejected and 85% of cases that were prosecuted.

**Eyewitness Identification Evidence Strength**

**Eyewitness Identification Strength in Accepted versus Rejected Cases.** Table 5 provides eyewitness identification evidence strength by case issuing decision. Overall strength of the eyewitness identification evidence did not differentiate prosecuted from rejected cases ($M = 4.33$ and $M = 4.19$, respectively), nor could case issuing decisions be distinguished on the basis of the
any of the individual strength indicators. As can be seen in Table 5, the majority of accepted and rejected cases had eyewitnesses with reasonably good viewing conditions and witnesses who expressed high confidence in their identification.

_Eyewitness Identification Strength in Eyewitness Identification Alone Cases._ Overall eyewitness evidence strength was further examined across prosecution outcomes in the eyewitness identification alone cases. The Uniform Crime Charging Standards suggest eyewitness identification alone cases should be scrutinized by the prosecutor to assess the validity of the evidence. The overall strength of the eyewitness evidence was higher for accepted compared to rejected eyewitness identification alone cases ($M = 4.73$ versus $M = 3.62$, respectively), $t(25) = 2.76$, $p < .05$, two-tailed. Each of the individual strength indicators was tested to explore whether there was a given factor that best distinguished issued from rejected cases in terms of eyewitness identification strength. No statistically significant differences for any of the individual indicators emerged.

_Showups versus Lineups._ The UCC standards advise that charges in eyewitness identification alone cases should be issued when a lineup has been conducted. Accepted and rejected cases, however, could not be differentiated on the basis of identification procedure type. Live showups were the most common procedure in both prosecuted (64%) and rejected cases (57%).

_Eyewitness Identification Outcomes and Charging Decisions._ Whether a case had any nonidentifications was unrelated to whether the case was prosecuted in stranger as well as in acquaintance cases. Additionally, charging decisions were not related to either the number of positive eyewitness identifications in the case or the proportion of positive eyewitness identifications in the case. These results are summarized in Table 2.

Discussion
Suspect and case factors that have been identified by previous archival research as influential in felony charging decisions were significantly associated with case issuing decisions in the present study. Eyewitness identification evidence was more likely in cases that were issued rather than rejected for prosecution. However, defendant prior record, crime severity, admittance to the crime and physical evidence were associated to a larger extent with case outcomes compared to eyewitness identification evidence. Additionally, the data suggested that prosecutors may examine the strength of the eyewitness identification evidence in making issuing decisions when there is only eyewitness identification evidence linking the suspect to the crime. The following sections discuss these findings and the additional research questions they raise.

Association between Eyewitness ID Evidence and Felony Issuing

In both stranger and acquaintance cases, positive eyewitness identification evidence was associated with increased odds of prosecution. The association between eyewitness identification evidence and case issuing, however, was stronger and statistically significant in acquaintance cases. In part, this may have resulted because statistical power was greater in the acquaintance case analysis because the sample size was relatively larger compared to stranger cases. The result would also arise, however, if prosecutors tend to scrutinize eyewitness identification evidence in stranger cases. Mistaken eyewitness identification concerns are of course greater in stranger compared to acquaintance cases. Therefore, on one level the fact that eyewitness testimony plays a relatively small role in case issuing decisions is a desirable result. On the other hand, the association between eyewitness identification evidence and case prosecution is likely to vary across jurisdictions depending on the procedures that are in place for determining whether a suspect should be presented in an eyewitness identification test and the weight that should be given to a positive eyewitness identification of the suspect.

Further research is needed to determine the role that eyewitness identification evidence plays in apprehending the suspect. Additional questions that remain include: Is eyewitness identification
Eyewitness Identification Evidence

Evidence the “icing on the cake” in determining the guilt of a suspect in the mind of the investigators? Does it play a pivotal role in leading the police to continue (or to stop) collecting evidence against a suspect? At what point during the course of an investigation does eyewitness identification evidence get collected? In the present study, other forms of evidence, such as physical evidence and suspect prior felony conviction, were positively associated with whether there was an identification test conducted in the case. Additional research is needed to determine how crime and suspect factors influence whether the suspect is shown to the eyewitness(es) for identification. This issue is important to investigate because whether eyewitness identification evidence provides additional information regarding the suspect’s guilt depends on the extent to which it is independent from other case evidence.

Case Prosecution and the Strength of Eyewitness Identification Evidence

Relatively few cases were prosecuted based solely on eyewitness identification evidence. Results indicated that most of the cases evaluated for prosecution had other forms of evidence in addition to (or instead of) eyewitness identification evidence implicating the suspect. This finding suggests that the police tended to not forward a suspect for prosecution unless there was other evidence in the case. Another factor contributing to low number of cases that relied solely on eyewitness identification evidence is that quite often the identity of the suspect was not at issue. That is, more than two-thirds of the suspects in the sample knew one or more of the eyewitnesses in their case. In acquaintance cases, of course, the identity of the suspect is not an issue.

There was some evidence to suggest that prosecutors may be scrutinizing the quality of eyewitness identification evidence, albeit in limited circumstances. The strength of the eyewitness identification evidence did not generally vary across accepted and rejected cases. However, in a subset of cases that were arguably relatively weak from an evidentiary standpoint, the eyewitness identification evidence was stronger in accepted compared to rejected case. In these cases, the suspect was positively identified, none of the eyewitnesses knew the suspect, there was no physical
Evidence, and the suspect did not admit to the crime and did not have a prior record. In cases in which the suspect admitted to the crime and/or had a prior record, the strength of the identification evidence did not vary across prosecution outcomes. These findings support the conclusion that in the absence of other evidence, such as suspect prior record and physical evidence, prosecutors are taking into account the strength of the eyewitness’ testimony as suggested by the UCCS. However, there were few cases in which eyewitness identification evidence was the sole evidence in the case; therefore, the strength of the conclusion would be served well by replication of these findings.

Interestingly, live showups were the most often used identification procedure. The prevalence of showups versus lineups did not vary in relation to prosecution outcomes, suggesting that prosecutors do not place greater weight on one procedure versus another. Few studies have investigated live showups and further research on this topic seems warranted. On the one hand, a positive identification from a live showup could be strong evidence of the suspect’s guilt. An eyewitness who positively identifies a suspect from a live showup usually does so at the crime scene, immediately after the crime. Memory strength is likely to be higher than if the eyewitness were given a lineup test, which is usually administered on average 5 days later for robbery cases and 18 days later for assault cases (Flowe et al., 2009). Research has demonstrated that identification accuracy declines with the passage of time (e.g., Shapiro & Penrod, 1986). Another benefit of live showups is that the test is given in the context in which the crime occurred, which could facilitate memory retrieval. Finally, if the police can test the eyewitness at the crime scene, this obviates the need for having to locate and liaise with a witness for a identification test at a later time. On the other hand, there are no foils in a showup; therefore, investigators may not be able to distinguish between positive identifications that are made based on the eyewitness’ memory for the culprit versus those that are made based on guessing alone (Steblay et al., 2003). Clearly additional research is needed to evaluate the best strategy for identifying suspects at the crime scene, such as the use of mobile lineup devices (e.g., MacLin & Phelan, 2007).
Which Factors Should Prosecutors Take into Account in Evaluating the Strength of Eyewitness Identification Evidence?

The findings raise the possibility that prosecutors take into account a range of indicators to assess the strength of the eyewitness identification evidence. None of the individual indicators of eyewitness identification evidence strength by itself was associated with case outcomes. The strength indicators when considered as a unit were associated with case outcomes in relatively weak cases. These findings are in keeping with previous research that found that participant evaluations of eyewitness evidence strength were related to the Biggers criteria in a summative fashion (Bradfield & Wells, 2000). More systematic work that evaluates each of the strength indicators, however, is needed, as the indicators of strength measured in the present study were not independent of one another. For instance, cases in which the eyewitnesses were relatively confident in their identification probably had better viewing conditions overall. More systematic work on the issue in field settings could lead to the specification of a strength marker(s) this is widely available and that can be reliably measured. Such a marker would assist prosecutors in the evaluation of eyewitness identification strength. The importance of this work is highlighted by the fact that most of the defendants in the eyewitness identification evidence alone cases pleaded guilty. If the defendant pleads guilty, then trial safeguards for protecting defendants from being convicted on the basis of erroneous eyewitness identification are of course rendered impotent.

Multiple Eyewitness Identifications and Non-Identifications and Felony Issuing

Clark and Wells (2008) demonstrated that multiple identifications of the suspect by eyewitnesses increase the odds that the suspect is guilty, whereas non-identifications decrease the odds that the suspect is guilty. Their analysis further demonstrated that in cases in which there are multiple eyewitnesses who have been presented with a lineup test, the odds that a suspect is guilty are affected to a larger extent by a non-identification compared to an additional positive identification, all other things being equal. Results in the present study indicated that case issuing outcomes were
not associated with whether multiple eyewitnesses identified the suspect or with whether there were any eyewitnesses who did not identify the suspect. Additional research is needed to determine how police and prosecutors evaluate cases that have multiple eyewitnesses. As pointed out by Clark and Wells (2008), the degree to which a non-identification affects the prior odds of suspect guilt depends on variables such as the non-identifying eyewitness’ memory strength. For example, if an eyewitness with relatively good viewing conditions positively identifies the suspect while an eyewitness with relatively poor viewing conditions does not identify the suspect, then the posterior odds that the suspect is guilty would be reduced little by the non-identification. In view of this consideration, future research could examine whether police and prosecutors weigh the validity of eyewitness identification evidence in relation to the degree of interaction that the eyewitness had with the culprit.

Limitations

The nature of archival research makes it difficult to draw cause and effect conclusions from the findings. First, our results may be specific to the location and/or the District Attorney’s Office that we examined. It is highly plausible that the relationship between eyewitness identification evidence and case outcomes varies across jurisdictions. Additional studies are needed in several other jurisdictions to more fully understand how legal officials use eyewitness identification evidence. Second, the degree to which we are able to make inferences about legal decision making using criminal archives depends on the validity and completeness of the information reported by law enforcement officials in the archival records. Third, we sampled only rape, robbery and assault cases. Eyewitness identification evidence may have a differential effect on case processing depending on crime type. In murder cases, for example, there tends to be enormous pressure to bring a perpetrator to justice. Would charges in murder cases often be issued even if there was only eyewitness identification evidence? Fourth, eyewitness identification evidence in a rejected case may have an effect on case processing if the case is later re-opened. For example, we encountered
one case in the sample in which the credibility of a rape victim was called into question because she was not forthright with the police about having seen the perpetrator (who was a stranger) on the bus earlier on the day that she was reportedly raped. The case was rejected partly on this basis. The suspect was later arrested for raping four other women. The first case was re-opened in light of the new victim reports and physical evidence. There were so few of these types of cases that we could not systematically analyze them. However, it is important to point out that just because a case has been rejected does not mean that it will not be prosecuted in the future.

In sum, prosecutorial discretion to bring felony charges against a police suspect is a potential procedural safeguard that could help protect innocent suspects from being convicted on the basis of erroneous eyewitness identification. Results from the current study indicated that physical evidence and suspect factors were more strongly associated with case issuing decisions that eyewitness identification evidence. Additional research is needed to determine markers of identification accuracy that can be used by prosecutors in assessing the strength of eyewitness identification evidence.
References


People v. Rubalcava, H027786; C.A. LEXIS 11916 (2005).


United States v. James, NMCM 98 02036; CCA LEXIS 64 (2001).


Footnotes

1 Rape was defined as “an act of sexual intercourse accomplished with a person not the spouse of the perpetrator” under conditions in which a person is incapable of giving consent or is prevented from resisting, or under conditions in which the sexual intercourse is accomplished “against a person's will by means of force, violence, duress, menace, or fear of immediate and unlawful bodily injury on the person or another”, according to California Penal Code, section 261. Cases involving victims under the age of 18 were not sampled. Assault cases were defined as the alleged use of a deadly weapon (which includes firearm or semiautomatic weapons) or force to produce great bodily injury according to the California Penal Code Section 245 (1 and 2, a-d). Robbery was defined as “the felonious taking of personal property in the possession of another, from his person or immediate presence, and against his will, accomplished by means of force or fear” according to section 211 of the California Penal Code.

2 The descriptors were coded as matching using the following criteria: age values within +/- 5 years, height within +/- 2 inches and weight within +/- 10 pounds, and the remaining descriptors had to correspond exactly in order to be coded as a match.
Table 1. Raw Descriptive Statistics and Coding Outcomes for the Eyewitness Strength Indicator Variables.

<table>
<thead>
<tr>
<th>Strength Indicators</th>
<th>Raw Data Descriptive Statistics</th>
<th>Code Assigned (proportion of N)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Median</td>
</tr>
<tr>
<td>Viewed culprit head-on</td>
<td>257</td>
<td>n/a</td>
</tr>
<tr>
<td>Proximity</td>
<td>272</td>
<td>1 foot</td>
</tr>
<tr>
<td>Retention interval</td>
<td>270</td>
<td>2.88 days</td>
</tr>
<tr>
<td>Lighting</td>
<td>259</td>
<td>n/a</td>
</tr>
<tr>
<td>Confidence</td>
<td>243</td>
<td>n/a</td>
</tr>
<tr>
<td>Number of descriptors</td>
<td>185</td>
<td>10</td>
</tr>
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</table>
Table 2. Descriptive Characteristics of Sample and Zero-Order Correlations with Felony Case Prosecution by Crime Type.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Assault</th>
<th>Rape</th>
<th>Robbery</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Prosecution</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td><strong>Suspect Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age(^2)</td>
<td>33.1</td>
<td>0.12</td>
<td>154</td>
<td>29.2</td>
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<tr>
<td>Male(^1)</td>
<td>0.90</td>
<td>0.12</td>
<td>154</td>
<td>0.99</td>
</tr>
<tr>
<td>White(^1)</td>
<td>0.39</td>
<td>0.00</td>
<td>155</td>
<td>0.28</td>
</tr>
<tr>
<td>Prior Felony Record(^1)</td>
<td>0.53</td>
<td>0.60***</td>
<td>184</td>
<td>0.49</td>
</tr>
<tr>
<td><strong>Incident Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severity(^1)</td>
<td>0.77</td>
<td>0.28***</td>
<td>184</td>
<td>0.75</td>
</tr>
<tr>
<td>Physical Evidence(^1)</td>
<td>0.52</td>
<td>0.23**</td>
<td>184</td>
<td>0.46</td>
</tr>
<tr>
<td>Suspect Admit(^1)</td>
<td>0.39</td>
<td>0.12</td>
<td>184</td>
<td>0.41</td>
</tr>
<tr>
<td>Suspect Arrested at Crime Scene(^1)</td>
<td>0.29</td>
<td>-0.28***</td>
<td>184</td>
<td>0.10</td>
</tr>
<tr>
<td><strong>Eyewitness Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Strangers to Suspect(^1)</td>
<td>0.29</td>
<td>0.11</td>
<td>184</td>
<td>0.12</td>
</tr>
<tr>
<td>Any Positive IDs(^1)</td>
<td>0.29</td>
<td>0.29***</td>
<td>184</td>
<td>0.22</td>
</tr>
<tr>
<td>Number of Positive IDs(^2)</td>
<td>1.36</td>
<td>0.19</td>
<td>61</td>
<td>1.11</td>
</tr>
<tr>
<td>Any Non-IDs of Suspect(^1)</td>
<td>0.21</td>
<td>-0.17</td>
<td>61</td>
<td>0.08</td>
</tr>
<tr>
<td>Proportion of Positive IDs(^2)</td>
<td>0.83</td>
<td>0.19</td>
<td>61</td>
<td>0.93</td>
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<tr>
<td>Cross Race Eyewitnesses(^1)</td>
<td>0.32</td>
<td>0.21*</td>
<td>184</td>
<td>0.30</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.001 level (2-tailed).**

**Correlation is significant at the 0.01 level (2-tailed).**

*Correlation is significant at the 0.05 level (2-tailed).*

1 Variable is dichotomous, coded as "1" if present and "0" if absent

2 Variable is continuous
Table 3. Eyewitness Identification Procedure Distributions for Stranger and Acquaintance Cases.

<table>
<thead>
<tr>
<th>ID Procedure</th>
<th>Stranger (n=153)</th>
<th>Acquaintance (n=120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live showup</td>
<td>0.59</td>
<td>0.50</td>
</tr>
<tr>
<td>Photo array</td>
<td>0.30</td>
<td>0.41</td>
</tr>
<tr>
<td>Multiple</td>
<td>0.05</td>
<td>0.02</td>
</tr>
<tr>
<td>Other</td>
<td>0.06</td>
<td>0.08</td>
</tr>
</tbody>
</table>
Eyewitness Identification Evidence

Table 4. Logit Estimates of Suspect, Incident, and Eyewitness Variables on Likelihood of Prosecution for Stranger and Acquaintance Cases.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Stranger</th>
<th>Acquaintance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>S.E.</td>
</tr>
<tr>
<td><strong>Suspect Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Felony Record</td>
<td>2.08***</td>
<td>0.38</td>
</tr>
<tr>
<td>Suspect Admit</td>
<td>1.41**</td>
<td>0.49</td>
</tr>
<tr>
<td><strong>Incident Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severity</td>
<td>0.71</td>
<td>0.41</td>
</tr>
<tr>
<td>Physical Evidence</td>
<td>0.82*</td>
<td>0.38</td>
</tr>
<tr>
<td>Crime Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assault</td>
<td>-1.75***</td>
<td>0.45</td>
</tr>
<tr>
<td>Rape</td>
<td>-0.40</td>
<td>0.52</td>
</tr>
<tr>
<td><strong>Eyewitness Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Positive ID</td>
<td>0.57</td>
<td>0.39</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.98</td>
<td>0.50</td>
</tr>
<tr>
<td>-2 Log Likelihood</td>
<td>189.84</td>
<td></td>
</tr>
<tr>
<td>Cox &amp; Snell R²</td>
<td>0.27</td>
<td></td>
</tr>
</tbody>
</table>

***p < 0.001, **p < 0.01, *p < 0.05
Table 5. Eyewitness Identification Strength by Case Issuing Decision (Issued versus Rejected).

<table>
<thead>
<tr>
<th></th>
<th>Issued (n = 186)</th>
<th>Rejected (n = 59)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Strength</td>
<td>4.33</td>
<td>4.19</td>
</tr>
<tr>
<td>viewed culprit head-on</td>
<td>0.99</td>
<td>0.98</td>
</tr>
<tr>
<td>close proximity</td>
<td>0.63</td>
<td>0.63</td>
</tr>
<tr>
<td>short retention interval</td>
<td>0.62</td>
<td>0.59</td>
</tr>
<tr>
<td>good lighting</td>
<td>0.83</td>
<td>0.76</td>
</tr>
<tr>
<td>high confidence</td>
<td>0.93</td>
<td>0.89</td>
</tr>
<tr>
<td>description corresponded</td>
<td>0.64</td>
<td>0.58</td>
</tr>
</tbody>
</table>