An Examination of the Influence of Strength of Evidence Variables in the Prosecution's Decision to Dismiss Driving While Intoxicated Cases

**Tana McCoy · Patti Ross Salinas ·
Jeffrey T. Walker · Lance Hignite**

Abstract The majority of research examining prosecutorial discretion has focused on legal factors such as the seriousness of the offense or the extra-legal characteristics of the accused including race/ethnicity and gender. The amount of variance explained by court researchers, however, remains quite low. The present study extends previous research examining the primary determinants of prosecutor's decision to dismiss or fully prosecute focusing on driving while intoxicated cases. We focus on the predictive contribution of the strength of evidence relative to legal and extra-legal variables. The data consist of 2,358 driving while intoxicated cases filed in Harris County, Texas during the first 8 months of 1999. The findings strongly support the inclusion of strength of evidence variables in court research and further suggest their past omission may have attributed significance to spurious relationships.

Keywords Prosecutorial bias · Sentencing research · Strength of evidence · Gender bias

T. McCoy (✉)
Evelyn T. Stone College of Professional Studies, Roosevelt University, 18 S. Michigan Ave., Chicago, IL 60605, USA
e-mail: tmccoy@roosevelt.edu

P. R. Salinas
Department of Criminology and Criminal Justice, Missouri State University, 901 S. National Ave., Springfield, MO 65897, USA
e-mail: PattiSalinas@MissouriState.edu

J. T. Walker
Department of Criminal Justice, University of Arkansas at Little Rock, 2801 S. University Ave., Little Rock, AR 72204, USA
e-mail: jtwalker@ualr.edu

L. Hignite
Department of Criminal Justice, University of Houston-Downtown, One Main Street, Houston, TX 77002, USA
e-mail: hignitel@uhd.edu

Introduction

Contrary to public perception, the prosecutor occupies the most powerful position in the criminal justice system. Relative to judges, prosecutorial influence has increased in the past 20 years as the proliferation of determinant sentencing guidelines eroded the sentencing discretion available to judges. Spohn, Beichner, and Davis-Frenzel (2001) note that "all of the decision makers in the American criminal justice system have a significant amount of unchecked discretionary power, but the one who stands apart from the rest is the prosecutor" (p. 206). While court research has produced several noteworthy qualitative studies of prosecutorial discretion (Blumberg, 1967) there have been surprisingly few quantitative studies (Rainville, 2001). A disproportionate amount of empirical research has examined the courtroom work-group and determinants of sentencing (Pollitz-Worden, 1995). As Ball (2006) observed "research conducted on the decision points between arrest and sentencing is scarce" (p. 242).

The present study extends previous research examining the primary determinants of the prosecutorial discretion. We incorporate key strength of evidence measures to isolate the best predictors of the prosecutor's decision to dismiss or fully prosecute driving while intoxicated charges. The focus is twofold. First, we examine the contribution of each strength of evidence variable in predicting the prosecution decision. Second, we explore how our model is impacted by the inclusion of strength of evidence variables. To accomplish these goals, a baseline model was first calculated excluding strength of evidence. In two subsequent models, the predictive contribution of evidence was examined in addition to the possible role evidence plays as an intervening variable. We conclude that the omission of evidence variables could have led to serious error with regard to the influence of race/ethnicity and age on prosecutorial discretion.

Review of Literature

In her theoretical development of the influences on prosecutorial discretion, Albonetti (1987) notes the central role evidence plays in influencing prosecutorial actions. Albonetti argued prosecutorial discretion in the charging decision is primarily guided by the goal of managing uncertainty. In essence, informal guidelines dictate that the strength of any case is gauged according to its "convictability" (Miller, 1970; Neubauer, 1974; Frohmann, 1997). Case strength or "convictability" is assessed according to legal factors such as the seriousness of the charge, culpability of the defendant, and perhaps most importantly, strength of evidence (Spears & Spohn, 1997). Prosecutors feel the likelihood of conviction is higher in cases with stronger evidence which also lowers the uncertainty of case outcome that plagues cases with marginal evidence. As a result, prosecutors are more likely to file charges in these cases regardless of whether they feel the crime actually occurred.

While some qualitative studies of prosecutorial discretion have addressed the importance of evidence in defendant outcomes (Brereton & Casper, 1981; Emmelman, 1996; Neubauer, 1974), quantitative research has largely ignored evidence (Myers & Talarico, 1987). Commenting on the use of evidence measures in court prediction

models, Myers and Hagan (1979) observed "social scientific attention to the influence of evidence on legal processing decisions has been almost completely lacking" (p. 449). Almost 20 years later, Spears and Spohn (1997) reiterated the same concern noting that "virtually no studies have controlled adequately for strength of evidence" (p. 508).

The omission of strength of evidence variables in court research is surprising given the strong legal support for its relevance. Strength of evidence represents the primary factor upon which juries are directed by law to determine the guilt or innocence of a defendant (Garland, 2006). In a study of the most influential factors on the decision to file hate crime charges, prosecutors strongly endorsed the preeminence of evidence influencing the decision to file charges one prosecutors noting "when you ask a prosecutor what he is looking for . . . it always boils down to evidence" (McPhail and Jenness (2005, p. 96).

The importance of evidence, however, has not escaped all disciplines in which the court is a focus of investigation. A considerable amount of jury simulation or mock jury research has focused on the role of evidence and found it to be a stronger predictor of jury behavior than jury composition (Martin, De Le Fuenta, Inmaculada De Le Fuente & Garcia, 2007), juror attitudes (Hepburn, 1980), or type of presentation (Martin et al., 2007). Furthermore, research has indicated the relationship between strength of evidence and likelihood of conviction is linear in nature; as the strength of evidence increases so does the likelihood of conviction (Skolnick & Shaw, 2001). Apparently, psychologists "get" what many social scientists apparently have not—much of what drives prosecutorial behavior is based on the "convictability" of the case (Spears & Spohn, 1997), which is based on the strength of evidence.

While the body of court research including strength of evidence variables is limited, findings supporting the importance of including such measures first emerged over 30 years ago. Analyzing 980 felony cases, Myers and Hagan (1979) controlled for eyewitness identification of the defendant, a confession of the defendants and/or accomplice, real or demonstrative evidence such as a recovered weapon, inculpatory expert testimony, other witness testimony, and the number of witnesses. They found strength of evidence variables the strongest predictors of both the decision to prosecute (as opposed to dismiss) and the decision to take a case to trial rather than participate in a plea bargain. When controlling for strength of evidence, other relationships became apparent that were undetected in the absence of evidence variables. The effect size of race/ethnicity, in particular, increased after controlling for evidentiary strength prompting the authors to conclude that "evidence, then, suppresses the effects of race" (Myers & Hagan, 1979, p. 448).

Clarke and Kurtz (1983) controlled for the presence of a witness, confession, physical weapon, recovery of property, and use of a weapon in predicting the likelihood of a dismissal and the sentence-length for convicted defendants. Likelihood of dismissal was significantly associated with a confession or incriminating statement and the existence of a witness to the crime. Violent felons experienced a significantly lower likelihood of dismissal and longer sentences when physical evidence existed.

Albonetti (1987, 2003) incorporated more comprehensive measures of evidence, introducing controls for both inculpatory and exculpatory. Utilizing federal

sentencing data, she found the presence of evidence to strongly influence the charging decision of federal prosecutors in her study. Although exculpatory evidence was not a significant predictor of the likelihood of conviction, both corroborative and physical evidence increased the likelihood of being charged.

A leading critic of the absence of evidence measures in court research, Cassia Spohn and colleagues have extensively studied the impact of evidence on prosecutorial charging decisions in sexual assault cases comparing multiple cities. These studies have also incorporated offender and victim characteristics. With the exception of Spears and Spohn (1997), these studies find robust support for strength of evidence variables. Comparing the strongest determinants of sexual assault charging decisions in Kansas City and Philadelphia, Spohn and Holleran (2001) included two measures of evidence. Physical evidence was measured dichotomously (yes/no) as the presence of blood, semen, clothing, bedding, or hair which corroborated the testimony of the victim. The presence of a witness to the crime was also included in the analyses as a measure a case's strength of evidence. Presence of physical evidence exerted the strongest influence on charging decisions although prosecutors did consider the suspect's prior record and character issues related to the victim. Prosecutors in both cities were most likely to file charges in sexual assault cases for which the "evidence is strong, suspect is culpable, and the victim is blameless" (Spohn & Holleran, p. 676).

Beichner and Spohn (2005) compared prosecutors in Kansas City and Miami with regard to charging decisions in sexual assault cases. The presence of physical evidence exerted a significant influence on the prosecutor's decision to file charges in both jurisdictions although the effect size varied considerably between the two departments. In Kansas City, the presence of strong evidence played a greater role in charging decisions than in Miami. These findings also highlighted the complexities of gauging strength of evidence and its interactions with other possible indicators of evidence. For instance, when physical evidence was weak, victim characteristics such as risky behavior and moral character exerted a stronger influence on the charging decision.

Holleran, Beichner and Spohn (2010) examined the best predictors of prosecutorial charging decisions in sexual assault cases in Philadelphia and Kansas City. While physical evidence was a strong predictor of charging decisions in both jurisdictions, additional variables related to both the victim and perpetrator were also significant in Kansas City where screening decisions were guided by the likelihood of conviction should the case go to trial and not simply the legal sufficiency of case characteristics.

While these findings support the importance of evidence variables in models designed to predict prosecutorial discretion, Spears and Spohn (1997) controlled for evidence but found only victim characteristics significantly predicted the decision to file charges in sexual assault cases in Detroit. Examining feminist hypotheses that victim rather than case characteristics will have the greatest impact on the decision to file charges, the authors found the victim's age, moral character, and behavior at the time of the incident were the only significant predictors. Neither the seriousness of the offense and strength of evidence including physical evidence, presence of a witness, injury, or the use of a gun or weapon significantly influenced prosecuting charging decisions. At the time,

Spears and Spohn ([1997](#)) noted that sexual assault presents unique challenges for prosecutors who likely take into account the prevalence of stereotypical juror attitudes when assessing the convictability of sexual assault cases. Spohn's subsequent research findings suggest that more often than not, prosecutors most rely on the strength of evidence in a case in determining the appropriateness of filing charges against a suspect.

Overall, the body of research conducted by Spohn and colleagues reveal that strength of evidence exerts substantial influence on prosecutorial decisions to file charges. The earlier findings from Detroit, however, highlight how differences in prosecutor policies for screening cases and assessing convictability may dramatically reduce the consideration of strength of evidence in certain jurisdictions. While important, these studies were limited to four cities and focused exclusively on sexual assault. The present research attempts to add to our limited understanding of the role strength of evidence plays in prosecutorial decisions by focusing on misdemeanor driving while intoxicated cases in Harris County, Texas.

Methods

The present study focuses on the roles and contribution of strength of evidence variables in predicting the likelihood of a full prosecution rather than receiving a dismissal. To test the relevance of strength of evidence, 2,358 misdemeanor driving while intoxicated (DWI) cases from the Harris County, Texas Criminal Courts at Law were analyzed. The cases received dispositions between January 1 and August 30, 1999. Due to the lack of variability in the case dispositions of defendants represented by appointed attorneys,[1] the analysis focuses exclusively on defendants represented by retained attorneys. All defendants were released on bail at the time of case disposition.

Dependent Variable

The dependent variable was the *prosecution decision*. The primary focus was to determine the independent variables most strongly influencing the prosecutor's decision to dismiss the case or fully prosecute. Virtually all defendants arrested in this jurisdiction for driving while intoxicated had charges filed against them as a matter of routine before extensive prosecutorial review; therefore, cases dismissed are similar to the decision to not file charges in jurisdictions in which more extensive screening is conducted before filing criminal charges. Given that almost 90% of all cases that went to trial received a verdict of guilty, the focus of the study was not the ultimate case disposition which could include a jury acquittal but rather if the prosecutor committed to prosecuting the case. Defendants whose cases were dismissed were coded zero (0). Cases where the prosecutor's decision was to fully prosecute the defendant were coded one (1).

---

[1] Over ninety-eight percent of defendants with appointed attorneys were convicted. Since this produced little variation in the case processing, these were dropped from the analysis. The analysis focused on retained attorney cases where there was more variability in outcome.

Independent Variables

To compute a model isolating the best predictors of the dependent variable, prosecution *decision*, strength of evidence, legal, and extra-legal variables were included. Strength of evidence variables consisted of breathalyzer, and blood alcohol concentration; legal variables included prior misdemeanors, prior felonies, and seriousness of offense; and extra-legal variables included age, race/ethnicity, and sex.

Strength of Evidence Variables

The principle variables in this analysis were the strength of evidence against the defendant. For DWI cases, the primary evidence is whether or not the suspect submitted to a breathalyzer test and, if so, the level of alcohol in the blood.

Breathalyzer

While no quantitative court research has examined the impact of strength of evidence variables on prosecutorial discretion involving driving while intoxicated defendants, there is considerable legal support for the importance of breathalyzer evidence in successful prosecutions. Legal strategy among defense attorneys specializing in driving while intoxicated offenses often focuses on blood alcohol concentration tests. Cases in which the defendant did not submit to testing are considered to be more "defendable." Defendants who refused to submit to breathalyzer testing were coded zero (0), and defendants who submitted to breathalyzer tests were coded one (1).

Blood Alcohol Concentration

Defendants who submitted to breathalyzer tests recorded a blood alcohol concentration. Blood alcohol concentration values ranged from .00 (no alcohol) to 1.00 (100% alcohol). The lower legal limit for a DWI in this state was .08. Subjects in this research had blood alcohol levels between .08 and .39. Since there were only five scores greater than .30, they were treated as outliers and removed from the analysis.

Legal Variables

In addition to strictly evidentiary variables, there are factors in prosecutorial decisions that are directly related to legal characteristics. These are factors specifically sanctioned by the criminal justice system as carrying import in sentencing decisions, and also are typically important in decisions of whether or not to prosecute.

Prior Misdemeanors/ Prior Felonies

The defendant's prior record can influence a number of related measures. In his review of twenty studies of judicial sentencing practices, Hagan (1974) found that legal variables such as prior record and seriousness of offense outweighed extra-legal factors such as age, race, and sex in sentencing decisions. A defendant with a

criminal history will likely receive a harsher sentence than a first-time offender and more likely to have a higher bail amount (Katz & Spohn, 1995). Defendants charged with misdemeanors and unable to make bail are less likely to pursue a trial which is more time consuming, and thus more likely to accept a plea bargain in order to gain release from jail. Prior misdemeanors ranged from 0 to 12.

One potential issue for this research is that the prior misdemeanor and felony variables each contained 15.4% missing data. These data were obtained during defendant interviews with representatives from the Pre Trial Services Agency (PTSA) prior to the probable cause hearing. After arrest and the filing of formal charges, the District Attorney's Office enters a recommended bond amount. Cash bonds require defendants to pay the bond amount in cash. Defendants able to secure their own release through private bail bond agencies are typically released quickly and often before being interviewed by the PTSA. Defendants denied or unable to secure the resources necessary for cash and security bonds are booked and interviewed by the PTSA representative. Thus, defendants most quickly mobilizing economic resources had some missing data for prior misdemeanors and felonies but were likely to represent the highest income level. Pretrial Services Agency administrators reported the completion of PTSA interviews with approximately 85% of defendants. The inclusion of these defendants and their case outcomes was deemed too critical to justify their removal; therefore, missing data for prior misdemeanors and prior felonies were replaced by the mean. This solution was deemed to be the most conservative approach of the strategies available to replacing missing data.

Seriousness of Offense

The present research focuses on one type of offense—driving while intoxicated. Driving while intoxicated offenses are classified as class A or B misdemeanors with the former representing the more serious of the two. Class B defendants have never been convicted of a DWI while Class A defendants have received one previous DWI conviction. Defendants charged with a DWI with two previous DWI convictions face a felony charge. Class B defendants served as the reference category and were coded zero (0), Class A defendants were coded one (1).

Extra-Legal Variables

The influence of demographic variables on court outcomes has been examined most frequently in the context of judicial bias. These variables should not influence prosecutorial decision making; but since their influence cannot be categorically dismissed, they are included here to examine any potential confounding effect.

Age

Research has shown age is associated with both conviction rates and incarceration rates. Many studies have assumed a linear relationship between age and sentence length but have found weak effects (Myers & Talarico, 1987). Exploring the influence of age on sentencing decisions, Steffensmeier, Ulmer, and Kramer (1995; 1998) noted a curvilinear relationship. The youngest offenders (18–20) were

sentenced more leniently than offenders ages 21–29, and offenders age 50 and over were sentenced most leniently.

For the present study, the age at the defendant's previous birthday in 1999 was used. Consistent with the work of Steffensmeier et al. (1995, 1998), a categorical measurement was employed with the following attributes: youthful (ages 18–20), young adult (ages 21–29), middle-age (ages 30–49), and older (ages 50 and older).

Race/Ethnicity

Conflict theorists have consistently argued that racial bias is pervasive in the American criminal justice system from the use of discretion in arrest decisions by police office officers to sentencing outcomes when a case is ultimately discharged in criminal court (Reiman & Leighton, 2010). Minorities are more likely to be indigent and thus over represented as clients of court-appointed counsel. Sentencing research has highlighted the importance of properly operationalizing race/ethnicity. Early sentencing research often combined White and Hispanic defendants into one category likely attenuating the outcomes of White defendants since subsequent research has consistently found harsher outcomes for Hispanics (Holmes, Hosch, Daudistel & Perez, 1996; Steffensmeier & Demuth, 2000). Thus, sentencing differences between Black and White defendants were ultimately minimized.

Criminal justice data in this county indicate a defendant's race as White, African American, Asian, or unknown. An ethnicity indicator is also recorded as Hispanic, Negro, or unknown. The ethnicity variable was recoded into a variable reflecting the presence or absence of a Hispanic indicator. The two variables, race and ethnicity, were combined to form a race/ethnicity variable containing White defendants with no Hispanic indicators (65.4%), White defendants with Hispanic indicators (23.3%), and African American defendants with no Hispanic indicators (10.3%). African American defendants with Hispanic indicators (.1%), and Asian defendants (.8%) were excluded. There were no Asian defendants with Hispanic indicators. The resulting race/ethnicity variable included 99% of the defendants. White defendants were the reference category and coded zero (0); African American defendants were coded one (1); Hispanic defendants were coded one (1).

Sex

The influence of gender on court outcomes has received increased attention by researchers. Studies have provided support for both the chivalry/paternalism (Mustard, 2001) and "evil woman" (Spohn, 1999) hypotheses. Paternalism/chivalry effects are hypothesized to result in more lenient court sanctions to females due to the perception that women are weaker and should be protected. To control for possible gender effects, the sex of the defendant was also included in the analysis with males serving as the reference group and coded zero. Females were coded one (1).

Analysis

The primary multivariate analysis used to examine these data was logistic regression. To ensure the variables were appropriate for this analysis procedure and to examine

the variables individually, univariate analyses of the dependent and independent variables were first conducted. Bivariate analyses using cross tabulation were also conducted to examine the effects of the independent variables on the two dependent variables (breathalyzer and blood alcohol concentration). Three multivariate models were conducted in the final component of the analysis examining the efficacy of the strength of evidence variables in predicting *prosecution decision.*

Univariate Analyses

The descriptive analyses focused on the distributions of the nominal variables and means of the interval level variables. Following the removal of the five *blood alcohol concentration* scores as outliers, the final sample size was 2,358. Over 85% of these DWI defendants were prosecuted. The majority were male (79.9%), White (75.3%), and middle-age (55.8%). The majority of defendants (86.4%) were charged with the less serious Class B misdemeanor. The mean *prior misdemeanors* and *prior felonies* were 1.11 and .28 respectively. Among the strength of evidence variables, 53.3% declined to submit to breathalyzer testing. The mean *blood alcohol concentration* of defendants was .168.

Bivariate Distributions

Chi square tests of independence indicated significant associations between *prosecution decision* and the categorical variables *age* ($p<.01$), *race/ethnicity* ($p<.01$), *sex* ($p<.01$), and *breathalyzer* ($p<.01$) but not *seriousness*. The greatest difference in dismissals versus full prosecutions was among those defendants submitting to breathalyzer testing in comparison to defendants who refused. Almost twenty-three percent (22.8) of defendants who refused to submit to breathalyzer testing received dismissals. In contrast, only 4.9% of defendants who took breathalyzer tests had their cases dismissed. The mean *blood alcohol concentration* of defendants receiving *dismissals* was .134 compared to a mean of .170 for defendants who did not received dismissals.

The next step in the analysis was to determine if the strength of evidence variables varied significantly among certain types of defendants. The bivariate analyses produced several noteworthy differences. Among the extra-legal variables, youthful defendants were most likely to submit to testing but recorded the lowest average *blood alcohol concentration* (.150). White defendants were least likely to submit to breathalyzer testing while African Americans were most likely. Hispanic defendants recorded the highest mean *blood alcohol concentration* (.175).

Multivariate Analysis

To examine the influence of strength of evidence variables on *prosecution decision,* three logistic regression models were calculated. In model one, the best predictors of *prosecution decision* for all defendants were examined excluding the strength of evidence variables. The purpose of model one was to establish a baseline model from which to compare the subsequent models incorporating

strength of evidence variables. Model two examined the best predictors of *prosecution decision* with the inclusion of *breathalyzer*. In model three, the second strength of evidence variable, *blood alcohol concentration*, was examined in relation to the best predictors of *prosecution decision* for defendants who submitted to breathalyzer testing.

Model One

Model one was calculated to establish a baseline from which to compare the individual contribution of strength of evidence variables in predicting *prosecution decision*. This model examined the relationship between *prosecution decision* and the extralegal variables *age*, *race*, *sex* and the legal variables *prior misdemeanors*, *prior felonies*, and *seriousness* (Table 1). Consistent with theory testing protocol, an enter method was used where all predictor variables were entered into the logistic model simultaneously.

The classification table was used to assess any improvement in our ability to predict *prosecution decision* with data related to the defendant's *age*, *race/ethnicity*, *sex*, *prior misdemeanors*, *prior felonies*, and *seriousness* his or her present offense. Since a substantial majority of defendants (85.5%) were fully prosecuted, a perfect model could only improve the classification accuracy of the

Table 1 Logit estimates of *prosecution decision* with no strength of evidence

| Variable | Model One | | | |
| | N=2,356 | | | |
	β	S.E.	Wald	Exp (β)
Age***	.109	.266	17.53	1.12
(Young Adult=1)	.543	.262	.168	1.72
(Middle-age=1)*	.818	.325	4.306	2.27
(Older=1)*			6.318	
Race/Ethnicity***	.464	.229	20.71	1.59
(Black=1)*	.932	.220	4.104	2.54
(Hispanic=1)***			17.975	
Sex				
(Male=1)	-.234	.140	2.799	.791
Seriousness				
(Class A=1)	-.196	.178	1.211	.822
Prior Misdemeanors	.020	.047	.191	1.02
Prior Felonies	-.076	.084	.825	.927
−2 LL	1906.171			
Naglekerke R^2	.036			
Classification Accuracy (percent)	85.5			

*p≤.05 **p≤.01 ***p≤.001

null model by 14.5%. Indeed, the introduction of the six variables did not improve predictive accuracy of the model. In fact, the six variable model also correctly classified 85.5% of the cases. Naglekerke R^2 (.036) was also used to gauge model fit. Comparable to an R^2 measure in ordinary least squares regression, .036 represented a poor model fit. However, this finding was likely impacted by the disproportionality in the dependent variable with only 14.5% of the cases not accounted for by the null model.

While none of the legal variables was significant, two extra-legal variables significantly predicted the dependent variable, *prosecution decision*. Both *race/ethnicity* ($p<.01$) and *age* ($p<.01$) were statistically significant. Within the *race/ethnicity* variable, both African Americans ($p<.05$) and Hispanics ($p<.01$) were significantly more likely than White defendants to be fully prosecuted.

Odds ratios were used to compare the predictive contribution of the significant independent variables. Controlling for *age*, *sex*, *prior misdemeanors*, *prior felonies*, and *seriousness*, the odds of *full prosecution* for African Americans were 1.59 times higher than Whites. For Hispanics, the increased odds were 2.54 times higher than White defendants. Among the age groups, both middle-age ($p<.05$) and older defendants ($p<.05$) were significantly more likely than the reference group, youthful defendants, to be prosecuted. Older defendants were 2.26 times more likely to be prosecuted than youthful defendants. Middle-age defendants experienced prosecution odds 1.72 times higher than youthful defendants.

Model Two

The introduction of the strength of evidence variable *breathalyzer* did not improve the predictive ability in the classification model over model one. Model two also correctly classified 85.5% of cases, which was no improvement from the baseline model including no strength of evidence variables. Overall, model two was an improvement over model one. As shown in Table 2, the Naglekerke R^2 increased from .036 in model one to .16 in this model. Improved model fit was also indicated by −2 Log likelihood which decreased from 1,906.17 to 1,732.46.

Breathalyzer ($p<.01$) was a statistically significant predictor of *prosecution decision* with the odds of prosecution for defendants who submitted to breathalyzer testing 6.28 times greater than defendants who refused breathalyzer testing. While *race/ethnicity* remained statistically significant ($p<.01$), the odds of prosecution for African Americans as an individual attribute were no longer significantly different than from Whites. Hispanics, however, remained significantly more likely to be convicted ($p<.01$). The Hispanic odds of prosecution were 2.28 times greater than Whites. The introduction of *breathalyzer* had no statistically significant effect on *age* ($p<.01$). Similar to model one, the odds of prosecution for middle-age defendants were 2.56 greater while older defendants faced odds 3.07 greater than the youthful defendants. While the second model overall did not improve the predictive ability of the overall model, it did reduce the number of extra-legal attributes with a statistically significant relationship to *prosecution decision*. With the introduction of *breathalyzer*, the likelihood of being fully prosecuted was no longer significantly different for African American and White defendants.

Table 2 Logit estimates of *prosecution decision* with *breathalyzer* in model

Variable	Model Two			
	N=2,356			
	β	S.E.	Wald	Exp (β)
Age***			28.369	
(Young Adult=1)	.357	.285	1.567	1.43
(Middle-age=1)***	.940	.281	11.206	2.56
(Older=1)***	1.122	.343	10.681	3.07
Race/Ethnicity***			13.942	
(Black=1)	.262	.238	1.213	1.30
(Hispanic=1)***	.823	.225	13.362	2.28
Sex				
(Male=1)	-.219	.146	2.249	.803
Seriousness				
(Class A=1)	.054	.184	.087	1.06
Prior Misdemeanors	.070	.051	1.913	1.07
Prior Felonies	-.092	.088	1.081	.912
Breathalyzer***				
(Yes=1)	1.837	.159	132.980	6.28
−2 LL	1732.426			
Naglekerke R²	.160			
Classification Accuracy (percent)	85.5			

*p≤.05 **p≤.01 ***p≤.001

Model Three

Blood alcohol concentration was introduced in model three. Since *breathalyzer* was a constant in the model which included only defendants who submitted to testing, it was removed from the model. The disproportionality in full prosecution versus dismissals was greater in this model than models one and two. Over 95% of defendants who submitted to breathalyzer testing were prosecuted. As expected, the disproportionate number of prosecutions did not allow for an improvement in predictive accuracy. As shown in Table 3, the Naglekerke R^2 indicated 14.6% of the variation in *prosecution decision* could be explained by the model.

  Blood alcohol concentration was the only significant predictor of *prosecution decision* (p<.001) in model three. The odds of full prosecution increased by 1.32 times for every .01 increase in *blood alcohol concentration*. Thus, the odds of a full prosecution for a defendant with a *blood alcohol concentration* of .20 were 13.2 times greater than a defendant whose *blood alcohol concentration* was .10. Hispanic defendants were no longer significantly more likely than White defendants to be convicted once blood alcohol concentration levels were taken into account. Statistically significant differences in the odds of full prosecution among middle-age and older defendants also dissipated once the model controlled for *blood alcohol*

Table 3 Logit estimates of *prosecution decision* with *blood alcohol concentration* in model

Variable	Model three N=1,097			
	β	S.E.	Wald	Exp (β)
Age			.573	
(Young Adult=1)	.-.137	.587	.054	.872
(Middle-age=1)	-.268	.575	.217	.765
(Older=1)	.058	.713	.007	1.06
Race/Ethnicity			1.182	
(Black=1)	.387	.501	.597	1.47
(Hispanic=1	.394	.461	.730	1.48
Sex				
(Male=1)	-.087	.344	.064	.916
Seriousness				
(Class A=1)	-.566	.579	.955	.568
Prior Misdemeanors	.284	.178	2.533	1.33
Prior Felonies	.145	.320	.206	1.16
Blood Alcohol Concentration***	.278	.048	33.110	1.32
−2 LL	377.210			
Naglekerke R²	.146			
Classification Accuracy (percent)	95.1			

*$p≤.05$ **$p≤.01$ ***$p≤.001$

concentration. Although the explained variance of *prosecution decision* was low, all extra-legal variables dropped out of the model and all of the explained variance could be attributed to the strength of evidence variable, *blood alcohol concentration*.

Discussion and Conclusion

The findings strongly supported the importance of including strength of evidence variables in research examining prosecutorial discretion. Both *breathalyzer* and *blood alcohol concentration* were significant predictors of *prosecutor decision*. Each strength of evidence variable demonstrated the greatest predictive strength in its respective model. Defendants choosing to submit to blood alcohol concentration testing were significantly more likely to be prosecuted, and the likelihood of a prosecution increased as levels of blood alcohol concentration increased. Further, with the introduction of strength of evidence variables in the model, the extra-legal variables *race/ethnicity* and *age* were no longer significant.

Our findings support Myers and Hagan's (1979) admonitions that "empirically, it [failing to control for evidence] means that models of prosecutorial decision making may be misspecified, falsely augmenting or suppressing the influence of social attributes . . . by failing to consider and control for the influence of evidence"

(p. 441). These findings also suggest previous research on racial/ethnic and age biases may have been the result of model misspecification. When failing to consider any evidence, the primary influences on *prosecution decision* were *race/ethnicity* and *age*. Significant differences in the likelihood of a full prosecution between African American and White defendants dissipated with the introduction of *breathalyzer* as a statistical control. Over 57% of African American defendants submitted to breathalyzer testing in comparison to only 44% of White defendants. Being Hispanic, middle-age, and older were no longer significant predictors of *prosecution decision* after the analysis controlled for *blood alcohol concentration*. Hispanic defendants recorded the highest *blood alcohol concentration* scores while the scores of middle-age and older defendants were significantly higher than those of the most youthful offenders.

Our findings, however, do not suggest disparate treatment according to race/ethnicity plays no role in the processing of DWI defendants. In fact, factors associated with race/ethnicity may substantially impact the quality of evidence amassed by the police. African Americans were most likely to submit to breathalyzer testing, a major predictor of receiving a dismissal and a decision made with the police prior to prosecutorial contact. This finding alone demands additional research to determine the factors at play. Studies have consistently shown minorities hold more negative attitudes toward the police. African Americans are significantly more likely to perceive police officers as disrespectful (Warren, 2011) and report being subjected to excessive use of force (Flanagan & Vaughn, 1996). Research has shown 75% of African Americans believe police brutality is common in comparison to 38% of Whites (Tuch & Weitzer, 1997). These factors likely encourage cooperation with the police even when doing so might not in arrestee's best interest. Within this context, the relevance of strength of evidence does not suggest *race/ethnicity* is a spurious variable but rather *strength of evidence* serves as an intervening variable in the prosecutorial decision to fully prosecute a case.

These findings suggest important policy implications. Consistent with Fourth and Fifth Amendment protections, police departments should construct policies and procedures to ensure suspects knowingly, voluntarily, and intelligently waive all rights impacting due process, including the right to refuse breathalyzer testing. This suggestion is not meant to minimize the egregious consequences of drunk driving but rather to ensure consistent processing for all suspects. Initial bias may not be overcome at later points in the justice process, even if the later decisions are based on evidentiary and legal factors rather than extra-legal variables.

By controlling for strength of evidence, we were also able to make sense of initially unexpected findings. It was expected that prosecutors would be much less likely to dismiss charges for defendants previously convicted of a DWI, but the bivariate analyses showed no statistically significant relationship between previous DWI convictions and *prosecution decision*. This unanticipated finding may be explained by strength of evidence. Of all groups, the defendants previously charged with a DWI were least likely to submit to testing—only 29% took breathalyzer tests. One's previous experience with the criminal justice system as a DWI defendant resulted in more refusals of the breathalyzer test. The finding that Class A defendants (those previously convicted of a DWI) were overrepresented among those refusing breathalyzer likely also explains the absence of prior convictions

(misdemeanors and felonies) as significant predictors of *prosecution decision*. Class A defendants had a higher average number of prior misdemeanors and felonies but fell into the group least likely to be convicted.

The limited use of strength of evidence variables in court research is noteworthy. Myers and Hagan (1979) suggested the omission might lie in researchers' lack of familiarity with the work of the prosecutor: "Indeed, if social scientists regularly began their work by examining subjects engaged in their actual everyday activities, then one might have expected them to observe prosecutors exhibiting an early and pervasive interest in prosecuting cases based on strong evidence" (p. 449). Myers and Hagan (1979) also suggest the social scientific preoccupation with studying disparate treatment based on race and ethnicity may have also figured into this equation. Our explanation is rooted in more practical areas. The limited availability of strength of evidence variables in court data sets is likely one explanation for this omission. Albonetti (1991) reflected these same concerns noting "few data sets on felony processing contain information on strength of evidence" (p. 250). Our findings suggest such collection should become routine, and as well, their inclusion should be stressed in court research models. Most researchers would use it if it were available and easily accessible. It most likely is not.

Another likely barrier to the use of strength of evidence variables is the difficulty in isolating valid measures. This research demonstrated the amenability of DWI cases to valid and important strength of evidence measures. Determining whether or not the defendant submitted to breathalyzer testing and, if so, his or her subsequent BAC level was a relatively objective task. Operationalizing measures important to predicting other types of offenses may involve considerably more ambiguities. The challenges associated with operationalizing concepts such as witness credibility are likely to be more daunting. It also remains to be seen whether other strength of evidence variables possess the magnitude of impact that *breathalyzer* and *blood alcohol concentration* demonstrated in the present study. Their amenability to measurement may also positively influence their predictive efficiency. For instance, defense attorneys may find objective measures such as breathalyzer and blood alcohol concentration much more difficult to challenge in court than more subjective strength of evidence variables such as the presence of a witness, a confession, or physical evidence.

Replication of the study with more recent data could be instructive particularly if House Bill 189 pending before the 82nd Texas State Legislature becomes law in 2012. The bill proposes to reintroduce a deferred adjudication as a possible sentence for first time D.W.I. defendants (Withers, 2011). Influenced by intense lobbying by groups such as Mothers Against Drunk Drivers, in 1984, the Texas State Legislature abolished deferred adjudication as a possible sentence for a D.W.I conviction. Such a change could dramatically influence the variables having the greatest impact on D.W.I. case outcomes possibly reducing the influence of strength of evidence variables since culpability has no relevance in determining a defendant's eligibility for deferred adjudication. Extra-legal variables will likely exert considerably greater influence. A key component for eligibility includes the ability to pay for a vehicle interlock device and defendants with previous convictions for certain offenses are ineligible. Clearly, this sentencing option will favor defendants with greater resources.

The findings from this study were compelling. Failing to control for strength of evidence may result in model misspecification and flawed research. If at all possible, researchers should seek to include the variables on which criminal justice decisions should be based. It is not always easy to identify and operationalize these concepts; but it does not detract from the duty of researchers to attempt to do so. Further research into the importance of strength of evidence variables in research on other areas of case processing (police decisions to detain, trial decisions, etc.) should be conducted; and research similar to this project should be conducted on other types of crimes to determine the efficacy of using strength of evidence variables in a broad range of research related to decision points in criminal justice.

References

Albonetti, C. A. (1987). Prosecutorial discretion: Managing the effects of uncertainty. *Law and Society Review, 21*(2), 291–313.

Albonetti, C. A. (1991). An integration of theories to explain judicial discretion. *Social Problems, 38*(2), 247–266.

Albonetti, C. (2003). Model misspecification: Why aggregation of offense in federal sentencing equations is problematic. *Criminology, 41*, 1449–1456.

Ball, J. (2006). Is it a prosecutor's world?: Determinants of count bargaining decisions. *Journal of Contemporary Criminal Justice, 22*(3), 241–260.

Beichner, D., & Spohn, C. (2005). Prosecutorial charging decisions in sexual assault cases: examining the impact of a specialized prosecution unit. *Criminal Justice Policy Review, 16*(4), 461–498.

Blumberg, A. (1967). *Criminal justice*. Chicago: Quandrangle.

Brereton, D., & Casper, J. D. (1981). Does it pay to plead guilty?: Differential sentencing and the functioning of criminal courts. *Law and Society Review, 16*(1), 45–70.

Clarke, S. H., & Kurtz, S. T. (1983). The importance of interim decisions to felony trial court decision. *Journal of Criminal Law and Criminology, 74*(2), 476–518.

Emmelman, D. (1996). Trial by plea bargain: Case settlement as a product of recursive decisionmaking. *Law and Society Review, 30*(2), 335–360.

Flanagan, T. J., & Vaughn, M. S. (1996). Public opinion about police abuse of force. In W. Geller & H. Toch (Eds.), *Police violence* (pp. 113–128). New Haven: Yale Univ. Press.

Frohmann, L. (1997). Convictability and discordant locales: Recreating race, class, and gender ideologies in judicial decision making. *Law and Society Review, 31*(3), 531–556.

Garland, N. M. (2006). *Criminal evidence*. New York: McGraw-Hill.

Hagan, J. (1974). Extra-legal attributes and criminal sentencing: An assessment of a sociological viewpoint. *Law and Society Review, 8*(3), 357–383.

Hepburn, J. R. (1980). The objective reality of evidence and the utility of systematic jury selection. *Law and Human Behavior, 4*(1,2), 89–101.

Holleran, D., Beichner, D., & Spohn, C. (2010). Examining charging agreement between prosecutors and police in rape cases. *Crime and Delinquency, 56*, 385–413.

Holmes, M. D., Hosch, H. M., Daudistel, H. C., & Perez, D. A. (1996). Ethnicity, legal resources, and felony dispositions in two southwestern jurisdictions. *Justice Quarterly, 13*(11), 11–30.

Katz, C. M., & Spohn, C. (1995). The effect of race and gender on bail outcomes: Test of an interactive model. *American Journal of Criminal Justice, 19*, 161–184.

Martin, Ma Eva, De Le Fuenta, L., Inmaculada De Le Fuente, L. E., & Garcia, J. (2007). The influence of sample type, presentation format, and strength of evidence on juror simulation research. *Psychology, Crime and Law, 13*(2), 139–153.

McPhail, B., & Jenness, V. (2005). To charge or not to charge?- that is the question: the pursuit of strategic advantage in prosecutorial decision making surrounding hate crime. *Journal of Hate Studies, 4*, 89–119.

Miller, F. W. (1970). *The Decision to Charge a Suspect with a Crime*. Boston: Little, Brown and Co.

Mustard, D. B. (2001). Racial, ethnic, and gender disparities in sentencing: Evidence from the U.S. federal courts. *Journal of Law and Economics, 44*, 285–314.

Myers, M. A., & Hagan, J. (1979). Private and public trouble: Prosecutors and the allocation of court resources. *Social Problems, 26*(4), 447–468.

Myers, M. A., & Talarico, S. M. (1987). *The social contexts of criminal sentencing*. New York: Springer.

Neubauer, D. W. (1974). *Criminal Justice in Middle America*. Morristown: General Learning.

Pollitz-Worden, A. (1995). The judge's role in plea bargaining: An analysis of judges' agreement with prosecutors' sentencing recommendations. *Justice Quarterly, 12*(2), 257–278.

Rainville, G. (2001). An analysis of factors related to prosecutor sentencing preferences. *Criminal Justice Policy Review, 12*(4), 295–310.

Reiman, J. H., & Leighton, P. (2010). *The rich get richer and the poor get prison: Ideology, class, and criminal justice* (9th ed.). New York: Wiley.

Skolnick, P., & Shaw, J. I. (2001). A comparison of eyewitness and physical evidence on mock-juror decision making. *Criminal Justice and Behavior, 28*(5), 614–630.

Spears, J. W., & Spohn, C. C. (1997). The effect of evidence factors and victim characteristics on prosecutors' charging decisions in sexual assault cases. *Justice Quarterly, 14*(3), 501–524.

Spohn, C. (1999). Gender and the sentencing of drug offenders: Is chivalry dead? *Criminal Justice Policy Review, 9*, 365–399.

Spohn, C., Beichner, D., & Davis-Frenzel, E. (2001). Prosecutorial justifications for sexual assault case rejection: Guarding the "Gateway to Justice.". *Social Problems, 48*(2), 206–235.

Spohn, C., & Holleran, D. (2001). Prosecuting sexual assault: A comparison of charging decisions in sexual assault cases involving strangers, acquaintances, and intimate partners. *Justice Quarterly 18*, 651–688.

Steffensmeier, D. J., Kramer, J. H., & Ulmer, J. T. (1995). Age differences in sentencing. *Justice Quarterly, 12*(3), 701–719.

Steffensmeier, D., Ulmer, J. T., & Kramer, J. (1998). The interaction of race, gender, and age in criminal sentencing: The punishment cost of being young, black, and male. *Criminology, 36*, 763–798.

Steffensmeier, D., & Demuth, S. (2000). Ethnicity and sentencing outcomes in U.S. Federal Courts: Who is punished more harshly? *American Sociological Review, 65*, 705–729.

Tuch, S., & Weitzer, R. (1997). The polls-trends: Racial differences in attitudes toward the police. *Public Opinion Quarterly, 61*, 642–663.

Warren, P. (2011). Perceptions of police disrespect during traffic stops: A race-based analysis. *Crime and Delinquency, 57*(3), 356–376.

Withers, A. (2011). Texas legislature considers DWI deferred adjudication. Retrieved from http://www.smudailycampus.com/mobile/news/texas-legislature-considers-dwi-deferred-adjudication-1.2190540

Tana McCoy is an Assistant Professor at Roosevelt University in Chicago and the Program Director of Criminal Justice. Her research interests include the impact of gender and race/ethnicity on decision making in both the juvenile and adult justice systems. She has published research examining the relationships between race/ethnicity, family status and the detention of juveniles, as well as racial differences among juvenile sex offenders, and the conditions of confinement for women on death row.

Patti Ross Salinas is an Associate Professor at Missouri State University in Springfield, MO. Her current research interests include criminal sentencing, victim compensation and sexual assault.

Jeffery T. Walker is a professor of Criminal Justice and Criminology and Chair of the Department of Criminal Justice at the University of Arkansas, Little Rock, where he has worked since 1990. Dr. Walker has written 7 books and over 50 journal articles and book chapters. He has obtained over $9 million in grants from the Department of Justice, National Institute of Drug Abuse, and others. His areas of interest are social/environmental factors of crime and the study of non-linear dynamics as they relate to crime. He is a past President of the Academy of Criminal Justice Sciences. Editorial experience includes service as Editor of the *Journal of Criminal Justice Education*, *Journal of Critical Criminology*, and *Crime Patterns and Analysis*. Previous publications include articles in *Justice Quarterly*, *Journal of Quantitative Criminology*, and *Journal of Criminal Justice Education*, and the books *Leading Cases in Law*

Enforcement (8th Edition), *Statistics in Criminal Justice and Criminology: Analysis and Interpretation* (4th Edition) and *Myths in Crime and Justice* (2nd Edition).

Lance R. Hignite is currently an Assistant Professor of Criminal Justice at the University of Houston Downtown. He has published in the areas of liability of probation and parole officers and public opinion about crime and criminal justice issues. Dr. Hignite is currently working on research related the issues of homelessness, campus crime and anti-Muslim hate crimes.