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College Student Victims and Reporting Crime to the Police: The Influence of Collective Efficacy

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Abstract: *Campus crime and college student victimization are important social issues. Despite the existing research in this area, little is known about whether factors that influence police notification among college students are similar to those observed among the general population. Using data from a survey of 160 college students enrolled at the University of Nevada, Las Vegas, the current study assesses the influence of collective efficacy on crime reporting among college student victims, while controlling for relevant victim-, offender-, and incident-level characteristics of a crime. Results from multivariate regression analysis show that only one dimension of collective efficacy (i.e., social control) significantly influences police notification behavior among this college student sample. With the exception of crime severity, other factors that are commonly associated with crime reporting decisions among the general public are not correlated with these students' willingness to report crime to police. Findings are discussed in terms of both campus policies concerning crime reporting as well as theoretical implications.*

Keywords: campus crime, college student victimization, and social cohesion.

INTRODUCTION

Recently, according to data obtained from the National Crime Victimization Survey (NCVS), in each year between 1995 and 2004, college students aged 18-24 experienced an average of more than 463,000 incidents of violence, including more than 30,000 rapes or sexual assaults, 42,000 robberies, 106,000 aggravated assaults, and 284,000 simple assaults (Hart 2007). However, data from the U.S. Department of Education (2011) show that between 2005 and 2009, the number of Part I crimes[1] that occurred on college campuses fell nearly 21%. Although these figures reflect only those crimes known to police, analysis of NCVS data, which include both crimes reported as well as those not reported to police, confirms the recent decline in violent victimization among college students (Baum and Klaus 2005; Hart 2003, 2007). Despite the downward trend observed in recent years, campus crime and college student victimization remains a top concern for many, including students, parents, faculty, staff, administrators, and those living in and around campus communities.

Administrative policies and campus security practices are designed to keep students safe by addressing many of the concerns related to campus crime. For example, in response to high-profile incidents of fatal attacks involving college students, like the 2007 events at Virginia Tech, schools have increased the number and responsibilities of campus police, enhanced rapid response communication networks to alert students and college staff at the onset of violent incidents, provided greater access to clinical records of students with psychological or behavioral problems, and proposed establishing special firearm training so that armed faculty and staff would be able to

assist law enforcement at critical times (Rasmussen and Johnson 2008). While college students are far more likely to experience a property crime than a murder or some other form of campus violence (Bromley 1992; Fisher, Sloan, Cullen, and Lu 1998; Fisher and Wilkes 2003; Fox and Hellman 1985; Henson and Stone 1999; Siegel and Raymond 1992; Sloan 1992, 1994; Volkwein, Szelest, and Lizotte 1995), when campus crime threatens the overall safety and security of students it often elicits some form of legislative or administrative response. Since only about a third of all violence experienced by college students is reported to police (Baum and Klaus 2005; Hart 2003, 2007), developing a fully informed response to this problem can be a formidable task.

Over the past several decades, the campus crime literature has grown substantially, addressing many aspects of this important social issue. Studies range from investigations aimed at improving our understanding of the nature and extent of campus crime and college student victimization (Baum and Klaus 2005; Fisher et al. 1998; Fisher, Cullen, and Turner 1999, 2000; Fisher and Wilkes 2003; Hart 2003, 2007; Hart and Miethe 2011; Pezza 1995; Sloan 1992; Sloan and Fisher 2011) to research that has identified important institutional, community, and student characteristics related to these events (Bromley 1992, 1994, 1995; Cass 2007; Fox and Hellman 1985; Volkwein et al., 1995). In addition, researchers have examined student behavior, lifestyle, and the effects of drugs and alcohol use on college student victimization (Dowdall 2007; Fisher et al. 1998; Gebhardt, Kaphingst, and DeJong 2000; Pezza and Bellotti 1995; Sloan and Fisher 2011), while others have focused on specific types of student violence such as rape and sexual assault (Bachman, Paternoster, and Ward 1992; Cass 2007; Karjane, Fisher, and Cullen 2005; Fisher et al. 1999, 2000; Fisher, Daigel, Cullen, and Turner 2003; Potter, Krider, and McMahon 2000). Legal and administrative responses to campus crime have also been examined (Fisher, Hartman, Cullen, and Turner 2003; Gregory, and Janosik 2002; Janosik 2001; Janosik and Gehring 2003; Janosik and Gregory 2009; Karjane et al. 2005; Potter et al. 2000; Smith 1988), and theoretical explanations of campus crime and college student victimization have been offered (Bachman et al. 1992; Barton, Jensen, and Kaufman 2010; Cass 2007; Fisher and Nasar 1992; Fisher et al. 1998; Fisher and Wilkes 2003; Mustaine and Tewksbury 1999, 2006, 2007; Robinson and Roh 2007; Tewksbury and Mustaine 2000). However, with the exception of a few noteworthy studies (see for example, Hart 2003; Fisher et al. 2000; Sloan, Fisher, and Cullen 1997), little is known about what factors influence college students' decisions to report campus crime to police and whether those factors are similar to ones observed in the general population. If we can improve our understanding of why college student victims report (or do not report) crimes to police, strategies designed to increase our awareness of campus safety and security issues can be developed; and corresponding policies, programs, and procedures can be improved and implemented in a more efficient and effective manner.

Using data from a survey of students attending the University of Nevada, Las Vegas, the current study examines the issue of reporting college student victimization to police. Guided by social disorganization theory (Sampson and Groves 1989; Sampson, Raudenbush, and Earls 1997; Shaw and McKay 1942), the current study examines the influence of collective efficacy (Sampson 2004, 2006) among college students and its role in students' decisions to report victimization, while controlling for victim-, offender-, and incident-level characteristics of crime events related to reporting patterns among the general public. Results are discussed in terms of strategies for improving crime reporting among college students as well as the broader theoretical implications in the area of social disorganization. Before findings are presented, an overview of the literature is provided.

CAMPUS CRIME AND COLLEGE STUDENT VICTIMIZATION

An extensive research literature exists on campus crime and college student victimization (see for example, Fisher and Sloan 2007; Fox and Burstein 2010; Sloan and Fisher 2011). Within this broad area of study, many scholars have focused on investigating the extent and nature of campus crime as well as identifying correlates of crimes against college students. For example, using data from the National Crime Victimization Survey (NCVS), Hart (2007) noted that on average, each year from 1995 through 2004, college students between the ages of 18 and 24 experienced an estimated 460,000 violent victimizations[2]. Although this figure translates into an average annual rate of more than 56 violent crimes per 1,000 students, other studies suggest that the prevalence of violence experienced by college students is substantially higher (Belknap and Erez 2007; Brantingham and Brantingham 1999; Fisher et al. 1998, 1999, 2000; Koss, Gidycz, and Wisniewski 1988).

In general, past research consistently demonstrates that college students are far more likely to experience a property offense than a violent crime (Bromley 1992; Fisher et al. 1998; Fisher and Wilkes 2003; Fox and Hellman 1985; Henson and Stone 1999; Siegel and Raymond 1992; Sloan 1992, 1994; Volkwein et al. 1995). For example, Sloan et al. (1997) found that college students are victims of theft at a level nearly five times greater than the level of violence; Fisher and Wilkes (2003) suggest that the level at which students fall victim to burglary is about twice the level of violence; and Fisher et al. (1998) indicate that college students are victims of non-violent forms of harassment at almost one and a half times the level at which they are victims of violence. In

2009, police recorded more than 88,000 property crimes on U.S. college/university campuses, including more than 11,000 burglaries, 74,000 larceny-thefts, and 2,000 motor vehicle thefts (FBI 2011).

Previous research has also identified a number of correlates of college student victimization. These risk factors include specific characteristics of the offender, the victim, and the offense and are similar in many ways to those observed among non-student populations. For example, with the exception of rape or sexual assault (Belknap and Erez 2007; Brantingham and Brantingham 1999; Fisher et al. 1999, 2000; Koss et al. 1988), male college students experience overall violence (Baum and Klaus 2005; Hart 2003, 2007) as well as some forms of non-violent victimization (Fisher et al. 1998; Fisher and Wilkes 2003) at rates higher than female students. College student violence is also typically intra-racial, involves persons of similar age, and is often committed by offenders who the victim does not know (Baum and Klaus 2005; Hart 2003, 2007). The major exception to these patterns involves sexual victimizations or stalking where most victims are more likely to report knowing their attacker (Belknap and Erez 1995; Crowell and Burgess 1996; Fisher et al. 2000, 2003; Fisher, Cullen, and Turner 2002; Krebs, Lindquist, Warner, Fisher, and Martin 2007).

Students' risks of violent victimization also vary dramatically by location, time of day, and particular aspects of the social context in which the offense occurs. For example, in 2004, the rate of off-campus violence among college students was nearly 20 times the rate of on-campus victimization (Hart 2007). But when crime location was considered in conjunction with time, a different pattern emerged. That is, on-campus incidents involving violence were more likely to take place during the day (58%) than at night (37%), whereas incidents of off-campus violence occurred more frequently at night (72%) than during the day (26%) (Hart 2007). Finally, in an analysis of situational contexts of college student violence, Hart and Miethe (2011) found that minor assaults among males that occur in off-campus locations and in front of bystanders were the typical situations underlying the most prevalent contexts for violence experienced by college students.

Although many of the correlates of college student victimization are similar to those found in the non-student population, most empirical evidence suggests that college students are less likely to be victims of most types of violence than similarly aged non-students (Baum and Klaus 2005; Hart 2003, 2007). Another distinctive characteristic of college student victimization is the extent to which crime is reported to police. Levels and patterns of reporting crime to police among college students and the ways in which these levels and patterns are similar to, and distinct from, the general population are described in the following section in greater detail.

REPORTED PATTERNS AMONG COLLEGE STUDENT VICTIMS

Although much is known about the nature and extent of college student victimization, relatively less is known about factors that influence college student victims' decisions to report crime to police. Prior to the late 1990s, few studies examined reporting patterns associated with college student victimization, and those that did were based on small surveys[3] conducted at a single university. For example, in a survey of nearly 1,000 residents of the Michigan State University community, Trojanowicz, Benson, and Trojanowicz (1988) found that 79% of self-identified crime victims indicated that they reported the incident to police. And surveys administered to students enrolled in the University of Alabama system of higher education revealed that between 40% and 66% of on-campus crime was reported (Sigler and Koehler 1993; Sloan et al. 1993, 1995). As researchers began utilizing data from large-scale and national-level studies of campus crime and college student victimization, a different picture of the nature and extent of crime reporting among college student victims emerged.

Sloan et al.'s (1997) study of more than 3,400 college students marked the first large-scale study of college students' victimization reporting practices. Results of their study revealed that more than the three-quarters of all crimes identified were *not* reported to campus police or security, including 82% of all violent crimes, 79% of thefts, and 78% of burglaries. Similarly, using data from the National College Women Sexual Victimization (NCWSV) study, Fisher et al. (2000) found that 95% of rapes involving college students were not reported to police. Not only did findings from these large-scale/national studies contradict previous research, but they also called into question the validity of official campus crime statistics produced under the *Student Right-to-Know and Campus Security Act* (20 U.S.C. 1092[f]) (Shafer 2007).

In 1995, a single question that identified respondents as being either a full- or part-time college student at the time of their interview was added to the NCVS's Basic Screen Questionnaire (NCVS-1). With this new information included in NCVS data, researchers were able to compare characteristics of college student victimization with victimization among similarly aged non-students, including patters of reporting crime to police.

In the first study of violent victimization among college students produced from NCVS data, Hart (2003) found that 34% of all violence against college students was reported to police, including 12% of rapes and sexual assaults, 53% of robberies, 45% of aggravated assaults, and 69% of simple assaults. Overall, the level of reporting violence experienced by college students has remained stable over the past several years and is at a level that is significantly *lower* than similarly aged non-students

(Baum and Klaus 2005; Hart 2007). In other words, college students are less likely to report violence to police than their non-student counterparts. However, students and non-students generally provide similar reasons for why crime is not reported. These reasons include because the crime was considered a "private or personal matter," because the violence was considered a "small/no loss," and because it was "reported to another official" (Baum and Klaus 2005; Hart 2003, 2007).

Despite a growing understanding of the level of college student victimization reported to police, the reporting literature for college student victims is less developed than for the general public. Nevertheless, some factors that influence a college student victim's decision to report an incident have been identified, especially for crimes of rape, sexual coercion, and other forms of unwanted sexual contact. For example, in one of the few national-level multivariate analyses of factors predicting crime reporting among college student victims, Fisher et al. (2003) found that intra-racial crimes against college students are more likely to be reported than inter-racial crimes; and incidents involving a weapon, an offender who was a stranger, and where the victim was a Black, non-Hispanic student, were more likely to be reported to police. Collectively, evidence from studies of college student victims suggests that levels of reporting are significantly less than the levels observed in the general population, which is described in greater detail in the following section.

REPORTING PATTERNS AMONG THE GENERAL PUBLIC

Of the estimated 4.3 million violent crimes committed against U.S. residents in 2009, about half were reported to police (Truman and Rand 2010). This figure is significantly higher than for property crime, where only about 2-in-5 incidents were reported. The current literature on patterns of reporting crime to police among the general public is robust, and identifies specific factors that influence a crime victim's decision to report an incident. For example, certain victim characteristics have been linked to reporting behavior. Women are more likely than men to report victimizations (Birbeck, Gabaldon, and LaFree 1993; Conaway and Lohr 1994; Felson, Messner, and Hoskin 1999; Hart and Rennison 2003; Skogan 1976), intra-racial crimes are more likely to be reported than inter-racial crimes (Hart and Rennison 2003; Skogan 1976), and older or more affluent victims are more likely to report crime to police than younger victims or victims who earn less (Birbeck et al. 1993; Greenberg and Ruback 1992; Greenberg, Ruback, and Westcott 1982; Hart and Rennison 2003).

In addition to victim characteristics, certain offender characteristics have also been shown to affect a victim's decision to report a crime. For example, studies indicate that the victim-offender relationship matters. When the offender is a current or former spouse rather than someone they do not know or than someone identified as an acquaintance, victims are more likely to report a crime (Baumer, Felson, and Messner 2003; Felson et al. 1999; Hart and Rennison 2003; Lizotte 1985; Williams 1984). Crimes involving an armed offender compared to incidents involving an unarmed attacker are more likely to be reported to the police (Conaway and Lohr 1994; Hart and Rennison 2003; Williams 1984). Finally, studies of the general population suggest that the age, race, and number of offenders involved in a crime play a role in a victim's decision to report a crime. Violence involving a Black, older, or multiple offenders is significantly more likely to be reported to the police than a crime where the offender is White, younger, or alone, respectively (Hart and Rennison 2003).

The literature also suggests that certain contextual factors related to an incident affect a victim's decision to report a crime to police. For example, the severity of a crime is important; that is, crimes that are more severe are generally more likely to be reported than non-serious offenses (Bachman 1998; Birbeck et al. 1993; Goudriaan, Lynch, and Nieuwbeerta 2004; Hart and Rennison 2003; Kilpatrick, Benjamin, Veronen, Best, and Von 1987; Lizotte 1985; Skogan 1976, 1984). The location of an incident also matters. Williams (1984), for example, found that crimes that took place within the home are more likely to be reported to police than similar incidents that occurred in public. Finally, it is more likely that a violent victimization resulting in an injury is reported to the police than an incident where the victim is not injured (Hart and Rennison 2003).

Over the past several decades, various theories of victim decision-making have also been offered in order to explain reporting behavior (e.g., Black 1976; Gottfredson and Gottfredson 1988; Greenberg and Ruback 1992; Greenberg et al. 1982; Kidd and Chayet 1984). A growing body of research within this area emphasizes the importance of neighborhood characteristics on police notification in particular (e.g., Avakame, Fyfe, and McCoy 1999; Baumer 2002; Bennett and Wiegand 1994; Fishman 1979; Gottfredson and Hindelang 1979; Goudriaan, Wittebrood, and Nieuwbeerta 2006; Laub 1981; Ruback and Ménard 2001; Warner 1992), drawing heavily on the classic social disorganization theory (Shaw and McKay 1942).

NEIGHBORHOOD CHARACTERISTICS AND REPORTING DECISIONS

Shaw and McKay's (1942) social disorganization theory represented a fundamental shift in thinking about crime and delinquency, focusing on "kinds of places"

instead of "kinds of people" as an explanation of the etiology of crime and deviance. In its earliest form, social disorganization theory suggested that neighborhood structural factors (e.g., economic status, ethnic heterogeneity, and residential mobility) disrupted a community's ability to self-regulate, which in turn leads to increased crime and delinquency. A growing number of studies have examined the influence of police notification within the original social disorganization framework, but have generally not found support for a neighborhood structure-crime reporting link. For example, Warner (1992) found that racial heterogeneity and economic status of neighborhoods were not significant predictors of the likelihood victims would report robberies or assaults. Likewise, Baumer (2002) found that neighborhood disadvantage did not significantly affect the likelihood of police notification among robbery and aggregated assault victims. Similar studies conducted outside the U.S. have also failed to find support for the notion that more socially disorganized neighborhoods result in fewer crimes reported to police (Bennett and Wiegand 1994; Fishman 1979).

Over the past several years, the intervening effects of endogenous dimensions of neighborhood dynamics (i.e., social ties, social capital, social control, and social cohesion) have been incorporated into the original social disorganization perspective (Bursik and Grasmick 1993; Sampson 1988, 2003, 2004, 2006, Sampson and Groves 1989; Sampson, Morenoff, and Earls 1999; Sampson, et al. 1997). Although various scholars suggest these endogenous community dynamics could play an important role in crime victims' decisions to report crime to police (Baumer 2002; Black 1976; Conklin 1975; Gottfredson and Hindelang 1979), to date, only one known study has formally tested this hypothesis. Specifically, Goudriaan et al. (2006) hypothesized that the lower the social cohesion observed in a neighborhood, the lower the likelihood that crime victims living within these neighborhoods would report an incident to police. Results of their study indicate that a significant relationship between social cohesion and reporting crime exists: with every one-unit increase in social cohesion scores[4], there was a corresponding 19% increase in the likelihood that the crime would be reported.

The current body of literature reviewed above clearly demonstrates that much more is known about crime reporting patterns for the general population than for college student victims. A review of the literature also reveals that levels of reporting across the two groups are significantly different, while some of the factors that influence reporting decisions between the two groups are similar. And while a growing number of studies have investigated reporting patters among the general population within various theoretical frameworks like social disorganization, similar progress has not been made with respect to improving our understanding of why college student victims report crime to police. The current study begins to fill this gap in the literature.

CURRENT STUDY

Guided by social disorganization theory, the current study tests the hypothesis that college students' decisions to report crime to the police is directly correlated with collective efficacy[5]. Specifically, it is expected that as social cohesion and social control increase, the willingness of student-victims to report crime to police will also increase, while controlling for other competing explanations of reporting behavior. Findings from this investigation are important for two particular reasons. First, if factors that influence crime reporting among college students can be identified, strategies that may increase crime reporting could be implemented. In doing so, campus administrators could develop a more comprehensive understanding of the nature and extent of college student victimization, and this in turn could aid in the creation and implementation of strategies designed to reduce campus crime. Results from this study are also important because of the potential theoretical implications. By focusing on the collective efficacy of a college campus, the scope of social disorganization might be better understood. The following section describes the data and methods used to test our hypothesis.

DATA AND METHODS

Data for the current study were collected from a systematic random sample of college students enrolled at the University of Nevada, Las Vegas (N=160)[6]. Each respondent was provided an informed consent form approved by UNLV's Institutional Review Board and a copy of the survey instrument, which consisted of three sections (see Appendix). The first section contained questions that captured demographic information. The second section contained questions pertaining to social cohesion and social control. The third section contained a vignette[7] that described a hypothetical victimization and a question used to measure a student's willingness to report the crime described in the vignette to police. The order in which the vignette and social cohesion/social control questions were presented was rotated across different versions of the survey to guard against potential bias created by question-order effect. Different versions of the survey were distributed to participants in a random manner. A description of the measures used is provided in the following section, beginning with the dependent variable.

Measures

The dependent variable is the likelihood that a crime will be reported to the police, given a hypothetical set of circumstances. Responses were measured on a 5-point Likert scale, where (1) corresponds to 'Certainly would NOT report the incident' and (5) corresponds to 'Certainly would report the incident.' Table 1 provides descriptive statistics of the measures used in the current study and shows that on average, students would likely notify the police about the hypothetical incidents described in the vignettes (M = 4.0, SD = 1.1).

Table 1. Descriptive statistics (N=160).

Measures	Mean	SD	%	Min	Max
Dependent variable					
Likelihood a crime would be reported	4.0	1.1		1	5
Independent variables					
Social cohesion	29.7	5.5		8	40
Social control	14.7	2.9		4	20
Control variables					
Victim characteristics					
Age (in years)	20.9	4.1		16	40
Gender				0	1
Male (reference category)			49.0		
Female			51.0		
Race/Hispanic origin				1	4
White, non-Hispanic (reference category)			56.9		
Black, non-Hispanic			10.0		
Other, non-Hispanic			23.1		
Hispanic, any race			10.0		
Offender characteristics					
Victim-offender relationship [1]				0	1
Stranger (reference category)			50.0		
Non-stranger			50.0		
Incident characteristics					
Type of crime[1]				1	4
Aggravated assault (reference category)			25.0		
Simple assault			25.0		
Theft of property > $300			25.0		
Theft of property < $50			25.0		
Social factors					
Organizational membership				0	1
No (reference category)			68.8		
Yes			31.3		
Full-time semesters completed	2.6	2.8		0	12
On-campus residence	24.1	39.9		0	100

[1]Variable used in an equal number of vignettes administered to respondents randomly.

The independent variable in the current study is collective efficacy, which is comprised of two dimensions: social cohesion and social control. Measures of social cohesion were developed from similar measures used by Goudriaan et al. (2006), but modified slightly to gauge social cohesion on a college campus. Respondents were asked to indicate on a 5-point Likert scale the degree to which they agreed with eight different statements aimed at measuring shared values and a willingness to help others (see Appendix for the specific statements included on the survey instrument). For each single item, responses were scored from 1 to 5, where (1) corresponds to 'Strongly disagree' and (5) corresponds to 'Strongly agree.' Combined, scores for the measure of social cohesion range from 8 to 40. On average, students surveyed indicated a relatively high sense of social cohesion based on the indicators used (M = 29.7, SD = 5.5).

Respondents were also asked four questions related to social control. Specifically, respondents were asked to indicate on a 5-point Likert scale the degree to which UNLV students would intervene in different situations involving campus crime (see Appendix for the specific

questions included on the survey instrument). As with the social cohesion items, items used to measure social control were scored from 1 to 5, where (1) corresponds to 'Certainly would NOT intervene' and (5) corresponds to 'Certainly would intervene.' Combined, scores for the measure of social control range from 4 to 20. Again, students expressed a relatively strong sense of social control as measured by the indicators used (M = 14.7, SD = 2.9).

The measures of social cohesion and social control were designed to reflect the two underlying dimensions of collective efficacy. Factor analysis was conducted on all 12 items to assess their factorability. Strengths of correlations between the items measuring social cohesion ranged between .3 and .7 ($p < .01$), indicating moderate to strong factorability. Although the strengths of correlations between the items measuring social control were somewhat weaker—ranging between .2 and .6—they were all statistically significant ($p < .01$). The Kaiser-Meyer-Olkin measure of sampling adequacy was .84, above the recommended value of .6; and Bartlett's test of sphericity was significant ($\chi^2 = 783.31$, $p < .01$). Finally, two Eigen values of greater than 1 were observed. The first Eigen value showed the social cohesion factor explained 34% of the variance, whereas the social control factor explained 19% of the variance. Based on these results, none of the items used to measure collective efficacy were excluded.

Given the influence that victim-, offender-, incident-characteristics, as well as certain social factors, have on reporting crime to the police among the general population, control variables related to each were included in the current analyses. For example, a respondent's age, gender, and race and whether of Hispanic ethnic origin were included in the models below as rival explanatory variables. Age is a continuous variable ranging from 16 to 40 (M = 20.9, SD = 4.1). Gender is coded as 0 (Male) or 1 (Female). Most respondents are female (51%). Finally, race and Hispanic origin is captured through a series of four dichotomous variables: White, non-Hispanic (57%); Black, non-Hispanic (10%), "Other," non-Hispanic[8] (23%); and Hispanic, any race (10%). For the multivariate models that follow, 'White, non-Hispanic' is the reference category.

In addition to being used to assess a student victim's willingness to report a hypothetical crime situation to police, each vignette contained two rival explanatory factors, one measuring victim-offender relationship and the other measuring crime severity. Victim-offender relationship is measured as a dichotomous variable that includes the categories (0) 'Stranger' and (1) 'Non-stranger,' whereas crime severity is captured through a series of four dichotomous variables: (1) 'Aggravated assault,' (2) 'Simple assault,' (3) 'Theft of property valued at more than $300,' and (4) 'Theft of property valued at less than $50'. For the multivariate models that follow, 'aggravated assault' is the reference category[9].

Within the context of a hypothetical victimization, each vignette describes one type of crime and one type of victim-offender relationship. Since the victim-offender relationship measure consists of two categories, half of the respondents received vignettes where the offender's relationship to the victim is categorized as 'stranger' and the other half received vignettes where the relationship is categorized as 'non-stranger'. Similarly, since the type of crime measured consists of four categories, one-fourth of the sample received questionnaires with vignettes describing each crime type measured.

Finally, the current study controlled for competing social factors that might be correlated to collective efficacy and that are unique to the current sample. These factors include 1) whether students are members of a University-based organization, 2) the number of full-time semesters that students have completed at UNLV, and 3) the percentage of time respondents have lived on-campus while attending school. Organizational membership is coded as 0 (No) or 1 (Yes). Most respondents indicated that they are not members of a University-based organization (69%). The number of full-time semesters completed is a continuous variable ranging from 0 to 12 (M = 2.6, SD = 2.8). And finally, the percentage of time spent living on campus while attending UNLV is a continuous variable that ranges from 0% to 100% (M = 24.1, SD = 39.9).

Analytic Strategy

The current study uses multivariate linear regression to test the hypothesis that the higher the collective efficacy among college students leads to an increased willingness to report crime to police[10]. The analysis uses SPSS (Rel. 14.0) to produce three models. The first model is a partially specified model and includes only the two measures of collective efficacy: social cohesion and social control. The second model contains only the victim-, offender-, and incident-characteristics, along with the social factors believed to be competing explanations for reporting behavior. Finally, the third model is a more fully specified model and includes both the measure of collective efficacy as well as the control variables. This approach will help identify the influence of collective efficacy on reporting crime to the police independently from other possible correlates. In doing so, a more complete understanding of the relationship between the dependent and independent variables will be produced. Results from these analyses follow.

RESULTS

Three linear regression models that evaluate college student victims' willingness to report crime to police are presented in Table 2. Model 1 offers a basic way of examining the effect of two dimensions of collective

efficacy (e.g., social cohesion and social control) on a college student victim's reporting decision. Results show that only one dimension of collective efficacy significantly predicts reporting scores. Specifically, as a student's level of social control increases, their willingness to report crime also increases significantly, $b = 0.11$, $t(157) = 3.70$, $p < .05$. No measurable relationship between social cohesion and student reporting was observed.

Model 2 presents findings for a regression model evaluating the predictive value of victim-, offender-, and incident-characteristics, as well as social factors unique to the sample, on students' reporting patterns. Results from Model 2 show that almost none of the factors considered exert a significant effect on the student's willingness to report crime to police. The notable exception is crime severity. Net of other competing explanations included in the model, college students who are hypothetical victims of a simple assault are less likely than aggravated assault victims to report the crime to police, $b = -0.42$, $t(148) = -1.66$, $p < .10$. Similarly, theft victims where the stolen property is valued at more than $300, $b = -0.42$, $t(148) = -1.66$, $p < .10$, as well as where the stolen property is less than $50, $b = -0.90$, $t(148) = -3.57$, $p < .05$, are significantly less willing to notify police than those involved in hypothetical aggravated assaults.

Finally, Model 3 presents regression output from the fully specified model analyzed, which explains a significant proportion of variance in reporting scores, $R^2 = .20$, $F(14, 145) = 2.55$, $p < .05$. Results show that once competing factors are considered in conjunction with collective efficacy, only the social control dimension of collective efficacy remains a significant predictor of reporting scores, $b = 0.13$, $t(146) = 4.34$, $p < .05$. Net of other factors considered, as students' levels of social

Table 2. Three linear regression models predicting students' willingness to report crime to police (N=160).

	Model 1			Model 2			Model 3		
Measures	*b*	SE	t	*b*	SE	t	*b*	SE	t
Independent variables									
Social cohesion	0.00	0.02	0.15				-0.01	0.02	-0.29
Social control	0.11	0.03	3.70 **				0.13	0.03	4.34 **
Control variables									
Victim characteristics									
Age (in years)				0.00	0.02	-0.05	0.00	0.02	-0.04
Gender									
Male (reference category)									
Female				0.11	0.05	0.60	0.18	0.17	1.05
Race/Hispanic origin									
White, non-Hispanic (reference category)									
Black, non-Hispanic				-0.24	0.30	-0.81	-0.20	0.29	0.49
Other, non-Hispanic				0.09	0.22	0.42	0.14	0.21	0.64
Hispanic, any race				-0.17	0.31	-0.53	-0.15	0.30	-0.50
Offender characteristics									
Victim-offender relationship									
Stranger (reference category)									
Non-stranger				0.00	0.18	-0.01	0.00	0.17	0.01
Incident characteristics									
Type of crime									
Aggravated assault (reference category)									
Simple assault				-0.42	0.26	-1.66 *	-0.32	0.24	-1.33 *
Theft of property > $300				-0.42	0.25	-1.66 *	-0.36	0.24	-1.49 *
Theft of property < $50				-0.90	0.25	-3.57 **	-0.97	0.24	-4.03 **
Social factors									
Organizational membership									
No (reference category)									
Yes				-0.11	0.20	-0.57	-0.07	0.19	-0.36
Full-time semesters completed				0.02	0.04	0.56	0.04	0.03	1.12
On-campus residence				0.00	0.00	0.23	0.00	0.00	-0.38
Constant	2.29	0.59	3.86 **	4.37	0.54	8.09 **	2.45	0.81	3.01 **
F-statistic	7.05 **			1.25			2.55 **		
R^2	0.08			0.09			0.20		

*$p < .10$, one-tailed
**$p < .05$, one-tailed

control increase so does their willingness to report victimization to police. These findings offer limited support for the hypothesis that collective efficacy has a significant positive effect on police notification among college student victims, and are consistent with the suspected impact that social control has on reporting patterns among the general public (Baumer 2002; Black 1976; Conklin 1975; Gottfredson and Hindelang 1979).

In the fully specified model, the effect that crime type has on police notification decisions among college student victims also remains significant. Specifically, hypothetical simple assault victims are less likely than aggravated assault victims to report crime to police, b = -0.32, $t(146)$ = -1.33, $p < .10$. Similarly, theft victims where the stolen property is valued at more than $300, b = -0.36, $t(146)$ = -1.49, $p < .10$, as well as where the stolen property is less than $50, b = -0.97, $t(146)$ = -4.03, $p < .05$, are both less willing than aggravated assault victims to notify police of the crime. These findings are also consistent with similar observations made in studies of the general public: the likelihood of crime reporting decreases as the severity of crime also decreases (Bachman 1998; Birbeck et al. 1993; Goudriaan et al. 2004; Hart and Rennison 2003; Kilpatrick et al. 1987; Lizotte 1985; Skogan 1976 1984). A discussion of both the policy and theoretical implications of these findings follows.

DISCUSSION

In many ways, colleges and universities attempt to attract prospective students by promoting a sense of community and by integrating a neighborhood feel. Not unlike communities that exist outside the academic setting, however, colleges and universities must address the issue of crime and criminal victimization. As noted above, it is estimated that college students experience about 460,000 violent crimes each year; yet only about one-third of these incidents are reported to the police—a level that is significantly less than what is reported among similarly aged non-student victims of violence or among the general population (Baum and Klaus 2005; Hart 2003, 2007; Truman and Rand 2010). The current study broadens our understanding of the factors that influence a college student victim's decision to notify police when a crime occurs. Specifically, within the social disorganization theoretical framework, the current study investigated the effects of collective efficacy on a student victim's decision to report crime to police.

Results indicate that only one of the two dimensions of collective efficacy has a significant effect on student victims' reporting decisions. While social control exerts a significant positive effect on student victims' reporting decisions, a similar relationship is not observed for social cohesion. Similarly, only one of the competing explanatory factors modeled in the current analysis (i.e., crime type) was significantly associated with a student's willingness to report a crime.

Overall, findings may reflect a growing sense of student apathy seen on college campuses (see Bjornsen, Scepansky, and Suzuki 2007). That is, the absence of interest or concern toward campus crime—with the exception of incidents that are viewed as very severe—may explain why factors that have been shown to affect reporting behavior among victims of crime in the general public differ from those observed among college students. Although the nature of the sample limits generalizing these findings to all college students, current findings could have important policy implications for campus administrators and security officials.

In order for campus officials to design and implement policies aimed at reducing crime, they must have a broad understanding of the nature and extent of criminal victimization experienced by students. This means that officials must be aware of campus crimes that are both reported and unreported to police. Therefore, in order to improve police notification among college student victims, campus administrators need to be aware of factors that influence reporting behavior. Results of the current study suggest that if campus officials rely on information about police notification produced from studies of the general population to develop improved notification strategies, then these approaches may be misguided. Indeed, not only does collective efficacy appear to have limited influence over reporting decisions among college students, but other factors that influence the general public's decision to report crime also appear to have little effect. These factors include the age, gender, race and Hispanic origin of a victim, the victim-offender relationship, or other social factors such as whether a student is involved with University-based groups, the number of semesters he/she has attended, or the length of time that he/she has lived on campus while attending. In short, evidence from the current study suggests that campus policy officials must continue to investigate what factors influence students' decisions to report crime to police, if comprehensive crime-fighting polices are to be developed.

In addition to policy implications, if findings from larger studies of college students confirm the current results, then there are theoretical implications that should be considered. Although scholars have recently used social disorganization as the theoretical framework to demonstrate the significant influence of neighborhood dynamics on reporting decisions among the general population (Goudriaan et al. 2006), given the current findings, making similar conclusions about college students might be problematic. Other social norms may explain the current findings. For example, contemporary American society is dominated by the norms of minding one's own business (Batson, Duncan, Ackerman, Buckley, and Birch 1981; Cialdini, Brown, Lewis, Luce, and Neuberg 1997; Stürmer, Snyder, and Omoto 2005). This

normative explanation has been used to understand and explain actions related to a variety of crime contexts, such as bystander intervention (Hart and Miethe 2008; Luckenbill 1997; Miethe and Deibert 2007; Miethe and Regoeczi 2004). It could also be the dominant explanation for the observed results in this study. In particular, college student victims may simply choose not to report crime to police because they feel that doing so would violate some social norm of campus life, not because there is a greater sense of collective efficacy. In short, findings from the current study suggest that the scope of social disorganization theory may not sufficiently explain police notification decisions among college students.

Campus crime is an important social issue, and findings from the current study suggest the dynamics of police notification among college student victims may be different than those that exist for the general population. Given the potential political and theoretical implications of the present findings, additional research on this issue is warranted, especially in light of some of the study's limitations. These limitations and recommendations for future research are discussed below in the final section.

Limitations and Future Research

As a basis for studying the effects of collective efficacy on college students' decision to report crime to police, the data used in the present study have several limitations that restrict our substantive conclusions. For example, these data were obtained from a non-generalizable sample of students attending a single university. The sample size (N=160) was also not large enough to permit a more robust analytic approach. In addition, the models used in our analysis do not contain all of the variables that past research suggests are relevant to crime reporting among the general population, nor do they contain all the variables included in the social disorganization framework, which guided this study. As a result, despite explaining a moderate amount of variability in reporting scores (R^2 = .20), the models used in the current investigation may not be properly specified. Finally, the current study uses vignettes to present hypothetical victimizations to respondents and asks them to indicate the likelihood that they would report the incident to police. Despite their growing popularity in social science research, the use of vignettes (see Abelson 1976; Finch 1987; Schoenberg and Ravdal 2000) to gauge whether a student would "likely" report an incident to police is somewhat problematic as some research has called into question the validity of the vignette technique (Eifler 2007). What students say they would probably do in light of a hypothetical victimization may not accurately reflect their true behavior in real-life circumstances. Clearly, more research in the area is needed.

Future research on patterns of reporting crime among college student victims should continue to investigate the theoretical link between reporting behavior and the campus community, and should consider alternative explanations to the "neighborhood" effects examined in the current study. For example, a number of physical features associated with situational crime prevention can be found on college campuses (i.e., emergency call boxes, video surveillance cameras, lighted parking garages, etc.). Future research should look into the extent to which environmental characteristics related to the design of college campuses facilitate (or hinder) reporting among college student victims. Alternatively, more attention could be given to the role that normative behavior (i.e., empathy or altruism) plays in police notification. In addition, future research should consider whether factors identified as having a positive influence on reporting are consistent across the type of authority to whom incidents are reported. Recall that national figures show that violence against college students is often not reported because it was "reported to another official" (Baum and Klaus 2005; Hart 2003, 2007). In the future, investigations into reporting behavior among college student victims should consider other types of officials to whom crime is reported. Finally, over the past decade, our understanding of crime reporting patterns among college students has become clearer as a result of a growing number of large-scale/nation-level studies. Much of what we thought we knew about college student victimization based on studies conducted as single universities and with small samples of students has changed. In order to make similar advances in the area of crime reporting behavior among college students, similar large-scale/national-level investigations must be undertaken. Comparisons between colleges of different sizes, and of different typical class sizes, private versus public, or different levels of student population diversity might all provide further insight into reporting patterns of college student victimization.

Endnotes

[1] Part I crimes include murder and non-negligent manslaughter, negligent manslaughter, forcible and non-forcible sex offenses, robbery, aggravated assault, burglary, motor vehicle theft, and arson.

[2] Violent victimization includes rape and sexual assault, robbery, aggravated assault, and simple assault regardless of whether the crime was completed or attempted or whether it was reported to police.

[3] Although not a direct study of reporting patterns, in a national sample of higher education students, Koss et al. (1987) found that only 5% of rape victims reported the incident to police.

[4] Social cohesion scores were based on respondents' level of agreement, measured on a 5-point Likert scale, with the following statements: (a) I feel an attachment to this neighborhood, (b) I feel at home in this neighborhood, (c) I have a lot of contact with the people who live next door, (d) I have a lot of contact with other neighborhood residents, (e) I feel responsible in part for the neighborhood being a pleasant place to live, (f) people are nice to each other in this neighborhood, (g) I live in a pleasant neighborhood with a sense of solidarity, (h) people in this neighborhood hardly know each other and (i) I am satisfied with the composition of the population in this neighborhood (Goudriaan et al. 2006).

[5] Within the social disorganization framework, collective efficacy is an endogenous dimension of neighborhood dynamics that mitigates the influence of neighborhood structural determinants on crime and delinquency and is defined as the linkage of mutual trust and the willingness to intervene for the common good (Sampson et al. 1997). That is, collective efficacy is a social construct with two specific dimensions: a social control dimension and a social cohesion dimension. The social control dimension focuses on the likelihood that "neighbors could be counted on to take action under various scenarios…" (Sampson 2004:108); whereas social cohesion is measured by "items that capture local trust, willingness to help neighbors, and shared values" (Sampson 2004:108).

[6] Respondents included full- or part-time freshmen, sophomores, juniors, seniors, and graduate students admitted to the University at the time the survey was administered. Every 5th person exiting various buildings on campus (e.g., the main library, Student Union, a dormitory, and the student recreation facility), on different days of the week, and different times of the day, were approached and asked to participate in the survey.

[7] Each vignette was a short story about a hypothetical situation in which a respondent was asked to imagine him/her self. Each vignette contained two variables: One measured variation in victim-offender relationship and the other in crime severity. These two variables are described in greater detail in the section below. Other than variations in victim-offender relationship and crime severity, the remaining context of the vignette was held constant. See Finch (1987) and Schoenberg and Ravdal (2000) for more information on the use of vignettes in social science research.

[8] "Other," non-Hispanic category includes individuals who describe themselves as an Asian, Pacific Islander, American Indian, Aleut, or Eskimo. "Hispanic" is a measure of ethnicity and may include persons of any race.

[9] The victim-offender relationship measure is a dichotomous variable, the measure of crime severity contains four categories, and the collective efficacy questions and the vignettes were presented in two different orders. This resulted in a total of 16 versions of the survey instrument. Specific versions of the survey were administered randomly to respondents.

[10] The dependent variable is treated as an interval-level measure in the current analyses. This permits the use of linear regression as the primary analytic technique. Ordinal regression was considered, however, the sample size was too small to produce stable estimates (Norusis 2004).

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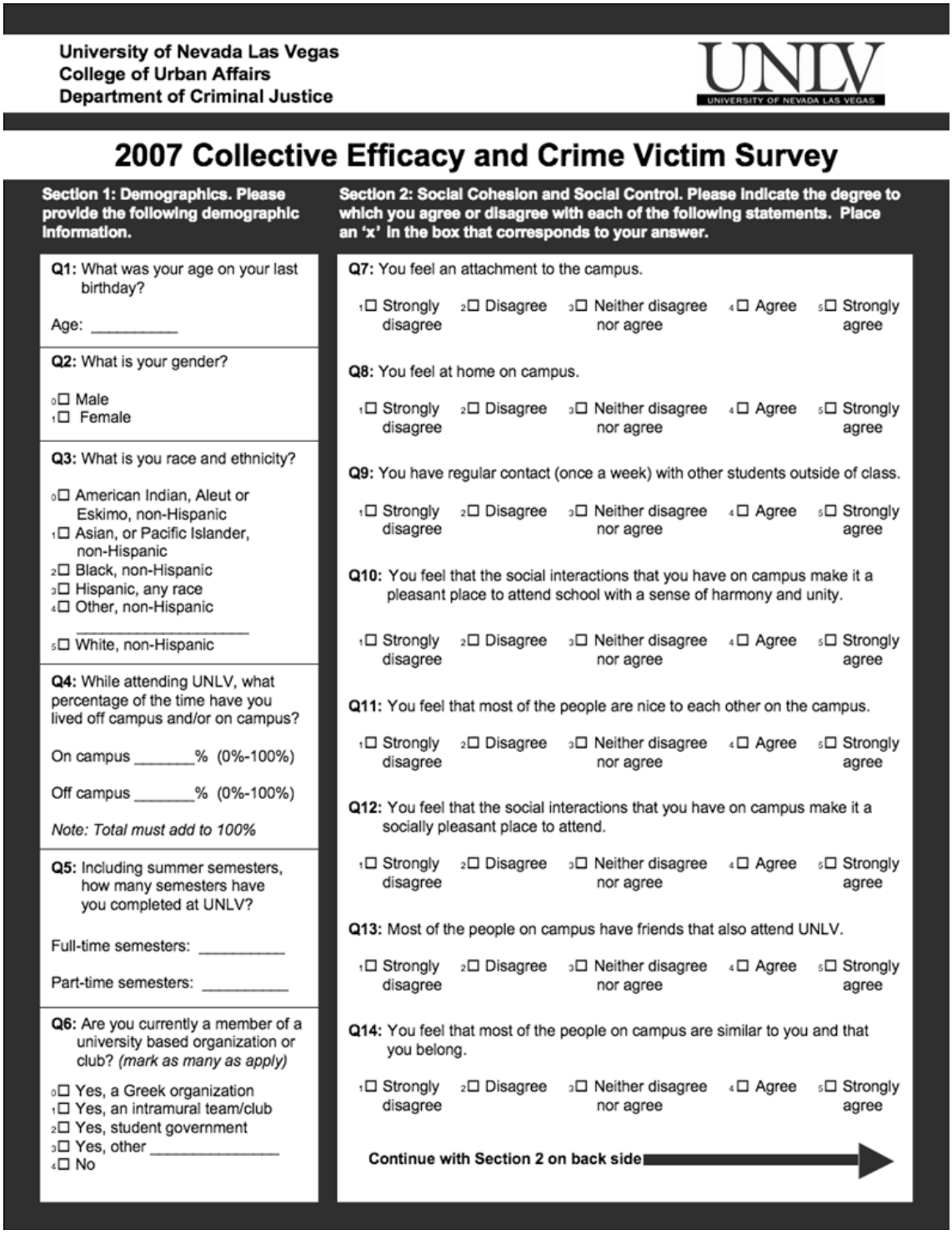
Appendix 1



University of Nevada Las Vegas
College of Urban Affairs
Department of Criminal Justice

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

2007 Collective Efficacy and Crime Victim Survey

Section 1: Demographics. Please provide the following demographic information.

Q1: What was your age on your last birthday?

Age: _____

Q2: What is your gender?

0☐ Male
1☐ Female

Q3: What is you race and ethnicity?

0☐ American Indian, Aleut or Eskimo, non-Hispanic
1☐ Asian, or Pacific Islander, non-Hispanic
2☐ Black, non-Hispanic
3☐ Hispanic, any race
4☐ Other, non-Hispanic
_____
5☐ White, non-Hispanic

Q4: While attending UNLV, what percentage of the time have you lived off campus and/or on campus?

On campus _____% (0%-100%)

Off campus _____% (0%-100%)

Note: Total must add to 100%

Q5: Including summer semesters, how many semesters have you completed at UNLV?

Full-time semesters: _____

Part-time semesters: _____

Q6: Are you currently a member of a university based organization or club? *(mark as many as apply)*

0☐ Yes, a Greek organization
1☐ Yes, an intramural team/club
2☐ Yes, student government
3☐ Yes, other _____
4☐ No

Section 2: Social Cohesion and Social Control. Please indicate the degree to which you agree or disagree with each of the following statements. Place an 'x' in the box that corresponds to your answer.

Q7: You feel an attachment to the campus.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q8: You feel at home on campus.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q9: You have regular contact (once a week) with other students outside of class.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q10: You feel that the social interactions that you have on campus make it a pleasant place to attend school with a sense of harmony and unity.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q11: You feel that most of the people are nice to each other on the campus.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q12: You feel that the social interactions that you have on campus make it a socially pleasant place to attend.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q13: Most of the people on campus have friends that also attend UNLV.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Q14: You feel that most of the people on campus are similar to you and that you belong.

1☐ Strongly disagree 2☐ Disagree 3☐ Neither disagree nor agree 4☐ Agree 5☐ Strongly agree

Continue with Section 2 on back side

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

Section 2: Social Cohesion and Social Control (Continued). Please indicate the degree to which UNLV students would intervene for each of the following questions. Place an 'x' in the box that corresponds to your answer.

How likely is it that UNLV students…

Q15: would physically try to intervene if they witnessed a student being assaulted on campus?

1☐ Certainly would NOT intervene	2☐ Probably would NOT intervene	3☐ Uncertain as to whether students would intervene	4☐ Probably would intervene	5☐ Certainly would intervene

Q16: would physically try to intervene if they witnessed the property of another student being stolen?

1☐ Certainly would NOT intervene	2☐ Probably would NOT intervene	3☐ Uncertain as to whether students would intervene	4☐ Probably would intervene	5☐ Certainly would intervene

Q17: on campus would call campus police if they saw another student being assaulted?

1☐ Certainly would NOT intervene	2☐ Probably would NOT intervene	3☐ Uncertain as to whether students would intervene	4☐ Probably would intervene	5☐ Certainly would intervene

Q18: on campus would call campus police if they saw property of another student being stolen?

1☐ Certainly would NOT intervene	2☐ Probably would NOT intervene	3☐ Uncertain as to whether students would intervene	4☐ Probably would intervene	5☐ Certainly would intervene

Section 3: Victimization. Please indicate the degree to which you would likely report the criminal victimization described below to campus police. Place an 'x' in the box that corresponds to your answer.

DIRECTIONS: Imagine yourself in the following hypothetical situation. Please do not assume anything beyond that which is described in the story. Once you have finished reading the passage, please answer the following question.

At the beginning of a new semester, you go to the UNLV bookstore to purchase some books for class. Afterwards, you put the books in your car, parked nearby, and go to the Student Union for lunch. When you return to your car, you see someone get out of a car that is parked nearby. You notice that another car has stopped right behind it, and that the driver is yelling at the person for taking their parking spot. You walk over and ask if everything is alright because you recognize the person yelling as someone you know from class. The angry driver tells you to mind your own business. You try to calm the driver down, but it doesn't work. Over the next few minutes, the situation escalates, and the driver eventually punches you in the face, gets back into their car, and drives away. As a result of the incident, you end up with a bloody nose and a black eye.

Q19: On a scale of 1 to 5, where 1 represents 'certainly would NOT report the incident' and 5 represents 'certainly would report the incident', what is the likelihood that you would report the theft described above to campus police?

1☐ Certainly would NOT report the incident	2☐ Probably would NOT report the incident	3☐ Uncertain as to whether you would report the incident	4☐ Probably would report the incident incident	5☐ Certainly would report the incident

V1

About the authors:

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Public Perceptions of School Resource Officer (SRO) Programs

Brad A. Myrstol
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Abstract: *Prior research examining people's perceptions of SRO programs has focused on the views of four stakeholder groups: school administrators, teachers, parents, and students. Notably, however, no prior studies have assessed the views of the general public, and few have utilized multivariate analyses in order to identify the factors that shape perceptions of SRO initiatives. Using community survey data collected in Anchorage, Alaska this study explores the general public's awareness of, perceived need for, and belief in the effectiveness of SRO programs, and systematically examines factors that predict public support for them within a multivariate framework. Results show that public support for SRO programs is multidimensional and "fuzzy." Implications and suggestions for future research are discussed.*

Keywords: School Resource Officers, schools, police, delinquency, public perceptions

INTRODUCTION

Prompted by several high-profile incidents of school violence in the late 1990s in places like West Paducah, Kentucky (1997); Springfield, Oregon (1998); Jonesboro, Arkansas (1998); and perhaps most memorably in Littleton, Colorado (1999), school administrators have taken a number of steps to improve school safety. Most prominent among these efforts has been the widespread adoption of technological security solutions, particularly the use of metal detectors and surveillance cameras. While these sorts of technologies were used prior to the high profile incidents of school violence that occurred in the 1990s, their use was largely limited to crime-ridden, urban schools. Now these forms of enhanced surveillance have spread to suburban and even rural schools (Addington 2009). In addition to these technological strategies, school administrators have taken other steps to control crime and delinquency. Examples of such steps include the creation of zero-tolerance policies for behaviors deemed to be detrimental to the learning environment of schools (Bracy 2011; Kupchik 2010; Price 2009), procedures for more tightly controlling access to school campuses and buildings, limiting weapons on campus, and developing crisis drills for faculty, staff, and students (Garcia 2003; Lawrence 2007; Snell et al. 2002). Officials have also worked to enhance the presence of security staff and police working in schools (Addington 2009; Birkland and Lawrence 2009; Price 2009). The introduction of School Resource Officers (SROs) – certified, sworn police officers who are employed by a local police agency but are permanently assigned to work in local schools – has been an especially popular response to concerns about school violence (Beger 2002; Theriot 2009).

While there is a long history of police occasionally working in schools, the permanent assignment of sworn

police officers to schools is a relatively recent development. Prior to the 1990s, the number of sworn police officers working in schools was small (Brown 2006), but fears about school violence, coupled with the surge of interest in community policing throughout the 1990s, produced rapid increases in the number of sworn officers working in public schools in the United States (Birkland et al. 2009; Center for the Prevention of School Violence n.d.; Brown 2006). Data from the Bureau of Justice Statistics show a significant increase in the number of local police agencies employing full-time SROs. In the late 1990s approximately a third of local police and sheriffs' departments employed SROs (Goldberg and Reaves 2000; Hickman and Reaves 2001; Reaves and Goldberg 2000). By 2003 SRO programs were operational in an estimated 43 percent of local police departments and 47 percent of sheriffs' departments. School resource officers are especially common in larger jurisdictions. Roughly 80 percent of police departments and 73 percent of sheriffs' offices serving jurisdictions of 100,000 or more residents maintain an SRO program; in cities with populations between 250,000 and 499,999 residents, more than 90 percent of departments employ full-time SROs. Local police and sheriffs' departments employ an estimated 20,000 SROs (Hickman and Reaves 2006a; 2006b).

Much of the growth of SROs can be directly traced to the efforts of the federal government. As part of their overall effort to advance community policing, in 1999 the Office of Community Oriented Policing Services (COPS) initiated the COPS in Schools grant program to facilitate the hiring of SROs "to engage in community policing in and around primary and secondary schools" (Office of Community Oriented Policing Services 2010). The COPS in Schools effort has two primary objectives: 1) to improve student and school safety, and 2) to help police agencies build collaborative partnerships with local schools. The COPS office provided the first round of funding for the COPS in Schools program in April of 1999. Between 1999 and 2005, more than $750 million was awarded to over 3,000 agencies for hiring SROs, and approximately $23 million more was granted for the training of SROs and the administrators of participating schools. The COPS office has also awarded an additional $11.5 million through the Safe Schools/Healthy Students Initiative and the Office of Justice Programs' Gang Reduction Project (Office of Community Oriented Policing Services 2005; 2008).

Despite the massive financial investments by federal, state, and local governments to initiate SRO programs and train officers, and the widespread adoption of SRO programs in schools across the country, relatively little is known about how these programs operate and there is almost a complete absence of research evaluating the ability of SRO programs to alter student behavior and thus improve school safety (Brown 2006; Johnson 1999; May, Cordner and Fessel 2004; May, Fessel, and Means, 2004; Raymond 2010; Theriot 2009). The dearth of empirical research focused on the implementation and effectiveness of these initiatives may be due, at least in part, to the tendency of police agencies and school districts to establish SRO programs without a plan for assessment and evaluation. Relatively few SRO programs conduct "useful or valid assessments of their programs" (Finn et al. 2005: 5), or even collect important process or outcome data that would make program evaluation possible (Finn and McDevitt 2005).

The bulk of research examining the impact of SRO programs focuses on their subjective impacts – that is, how the introduction of SROs into local schools has shaped the attitudes and perceptions of school administrators, teachers, students, and parents. Studies have consistently demonstrated support for SRO programs among the groups that are most directly impacted by them, particularly school officials and students. In general, principals and teachers are supportive of the SRO concept, believing that the presence of police in schools improves school safety and climate by deterring student misconduct and delinquency (Brown 2006; Brown and Benedict 2005; Johnson 1999; May, Fessel et al. 2004; Travis and Coon 2005). Students, on the other hand, seem to be much more ambivalent about the introduction of police into the school milieu (Bracy 2011). While students often express positive opinions of their SROs, routinely report acts of crime/delinquency to SROs, and frequently seek counsel from SROs about legal and personal problems (Hopkins 1994; Johnson, 1999; McDevitt and Panniello 2005), they also take issue with overly aggressive or authoritative officers and worry about being harassed and "treated like criminals" by SROs (Travis and Coon 2005; see also Bracy 2011). Compared to what is known about the perceptions and attitudes of school administrators, teachers, and students, much less is known about the perspectives of parents. The limited research that has been done suggests that although parents are generally supportive of assigning police officers to schools, they worry that the presence of police might give the impression to students (as well as the larger community) that their school is a dangerous place, when in fact it is not, and that children might feel as though they are under constant police surveillance (Travis and Coon 2005).

In sum, while the research literature is relatively small, the studies that have been conducted reveal broad-based support for SRO programs among the members of school communities. On the whole, students, parents, teachers, and school administrators approve of assigning sworn police officers to schools, yet we know very little about the factors that shape these attitudes. Given the near absence of SRO program impact evaluations, there is little reason to think that people's confidence in these initiatives is based on evidence of their effectiveness. What then accounts for the widespread endorsement of these programs?

Using data collected as part of a city-wide survey of adult residents in Anchorage, Alaska, this paper addresses this gap in the literature by examining the extent to which demographic, experiential, and attitudinal factors influence people's awareness of, perceived need for, and belief in the effectiveness of SRO programs. In addition, through its use of population survey data, rather than a more limited sample of individuals situated within the school milieu, the study also sheds light on the previously unexamined topic of the general public's views of SRO programs. Given the specific aims of SRO programs, it is easy to understand why researchers have focused so intently on the attitudes and perceptions of those who have the closest experience with them. Nevertheless, it must be remembered that the police serve entire communities, not narrow constituencies, and thus they are rightly subject to the opinions and judgments of all the residents within their jurisdiction.

Importance of Public Perceptions of Police Performance

Although most research examining the impact of SRO programs does not speak directly to these programs' central objectives of reducing school violence and crime, research examining how community members perceive, interpret, and evaluate the police services provided within an SRO framework can yield important insights into how well the police are performing. In an era of community policing wherein the police are expected to fully engage the public as partners in the development of organizational priorities and practices, it is no longer sufficient for police departments to look inward when evaluating their performance; appraisals of organizational performance must include the judgments of external constituencies (Duffee, Fluellen and Roscoe 1999; Kelling 1999; Langworthy 1999; Scheingold 1999). Prior to the advent of community policing the police were permitted to "project and impose their expectations on the public" (Scheingold 1999:183); today, the expectations are dramatically different. Police are increasingly being held accountable for not only the products of their activities, but also for the means by which they are attempting to attain them (Langworthy 1999; Scheingold 1999). Within the community policing paradigm, the police (and by extension, the SRO programs they administer) are "only as good as the public say they are" (Bayley 1996:42).

Thus, population surveys that ask members of the public to share their views about police serve dual purposes. First, these surveys have become an important mechanism by which citizens can give voice to their concerns and actively participate in the development of police priorities and practices in what has been termed a "new world of police accountability" (Walker 2005). In democratic societies where governmental authority and legitimacy are ultimately derived from the consent of the governed, it is difficult to overstate the importance of such a procedure for assessing police performance.

Second, surveys measuring public perceptions of police are of benefit to police organizations as well as the citizenry. From the standpoint of police organizations, which are faced with increasingly tighter budgets at the same time as demands for greater accountability are being placed upon them, surveys provide a method for measuring organizational performance that is at once innovative and cost-effective (Klockers 1999; Langworthy 1999). Surveys of the public represent an innovative method of measuring the quality of police services in four major areas. First, they place emphasis on the ways departments enact their strategic and operational priorities, rather than focusing solely on organizational outcomes; and second, they are outward-looking rather than inward-looking, acquiring information from sources external to the organization. Third, surveys serve as a platform from which multiple domains of police service can be studied simultaneously. And lastly, population surveys are typically designed, administered, and analyzed by one or more independent entities (such as a university or public polling firm), which helps to ensure their methodological rigor and the integrity of results. With respect to cost, while surveys are usually more expensive than internal data collection systems (e.g., calls-for-service and record management systems), the breadth and depth of information they provide more often than not justify the costs associated with their use.

THE PRESENT STUDY: ANCHORAGE ADULTS' PERCEPTIONS OF SRO PROGRAM EFFICACY

Methods and Data

The data used for this study were collected as part of the *Anchorage Community Survey, 2009*. The sampling frame for the Anchorage Community Survey (ACS) was adult heads of household residing within the Municipality of Anchorage, Alaska (hereafter Anchorage). A mail marketing firm drew a sample of 4,702 non-institutional and non-business mailing addresses from this sampling frame using a non-replacement random selection protocol. Only households with valid residential mailing addresses were included in the final sample; post-office box addresses were excluded.

A mixed-mode survey methodology was used in the administration of the survey (Dillman, Smyth, and Christian 2009). Participants could respond via a paper-based or a web-based questionnaire. Survey administration proceeded through five stages. At the first stage, pre-notification letters were mailed to respondents notifying them of their eligibility and inviting their participation. Approximately seven to ten days following, each sample member was sent a cover letter detailing the purpose of the

study, a questionnaire, and a pre-addressed, postage-paid envelope for returning the questionnaire. Two weeks later, sample members who had not yet returned their questionnaire, were mailed a reminder postcard. After an additional two weeks, sample members who still had not returned their questionnaire were mailed another reminder postcard. Finally, two weeks following the mailing of the second postcard, sample members who had yet to return a questionnaire or complete the web-based instrument were mailed a replacement questionnaire and cover letter. At each contact, sample members were told about the web-based version of the questionnaire and encouraged to complete the survey on-line if that was a preferable option for them. In addition, sample members could declare their desire not to participate at each contact, either by returning a blank questionnaire or by contacting the study director by phone. Once a sample member communicated the desire not to participate, all identifying information was permanently removed from the sample database and no further efforts to make contact were made. Mailings that were returned by the United States Postal Service as "undeliverable" also resulted in the permanent removal of all personally identifying information from the database. When questionnaires were returned with a forwarding address within Anchorage, the mailing list was updated with the new address and the respondent was mailed a new survey packet.

Data collection began in June 2009. The last completed questionnaire was received in October 2009. Of the 4,702 subjects included in the sample, 560 were removed because their surveys were undeliverable for a variety of reasons (e.g., moved out of the area or no forwarding address), reducing the total number of eligible households to 4,142. In all, 2,106 questionnaires were returned for a response rate of 50.8 percent. Respondents who did not provide a valid age, or who reported their age as less than 18 years, are not included in the analyses presented here (n=1,983).

Sample Characteristics

Table 1 presents the demographic and household characteristics of ACS respondents. Participants were predominantly White/Caucasian (79.9%), middle-aged (mean age = 49 years) females (54.7%). A large majority of respondents (81.2%) reported attending college, although just over half of this group reported obtaining a bachelor's or graduate degree. Nearly three-quarters of the sample (72.8%) were married or separated, and an additional 15 percent reported being married previously. Just over a third of the sample were parents of a student currently enrolled in the Anchorage School District (ASD). More than three-fourths of respondents (78.8%) reported living in Anchorage at least a decade; fully 58 percent have lived in the municipality for 20 years or more. With respect to the household characteristics of respondents, most reported living in 1-person (13.5%) or 2-person (39.6%) households; less than 10 percent resided in households with five or more members. A majority reported household incomes in excess of $75,000 gross annual income. Nearly all (96.7%) lived in households in which English was the primary language.

Measures of SRO Program Knowledge and Effectiveness

The ACS contained 29 items exploring public perceptions of SRO programs. Respondents were first asked three yes/no questions[1] assessing their knowledge and awareness of SRO programs, in general; the need for an SRO program in Anchorage; and their awareness of an SRO program in the municipality. Respondents were then asked to register their level of agreement or disagreement[2] with 26 statements about the efficacy of school resource officer initiatives, in general (see Appendix A and Appendix B for exact wording of items). These 26 items reflect the tripartite mission of SROs (law enforcement, law-related education, and mentoring/counseling), the aims of SRO programs, in general, as well as the specific goals of the Anchorage SRO program.[3]

Findings

An estimated 73 percent of Anchorage adults reported at least some familiarity with the foundational concept of school resource officer programs – that is, the permanent assignment of police officers to schools as a means of providing for the safety and welfare of students, faculty, and staff. Fully 88 percent of these respondents indicated that, in their opinion, the ASD should participate in an SRO program, and 70 percent said they had knowledge of the current SRO program administered by the school district and the police department.

Table 2 presents the descriptive statistics for the 26 items measuring survey participants' perceptions of the effectiveness of SRO programs (irrespective of prior knowledge of SRO programs, perceived need for an SRO program in Anchorage, or awareness of the current SRO program). The items are grouped into six conceptual categories that reflect each of the outcome domains of SRO programs more generally: Delinquency Prevention (in general, not specific to the context of schools), School Climate and Safety, Police-Community Relations, Community Quality-of-Life, Student Education: Law/Legal System, and Police Outcomes. In addition, three items measured the extent to which SRO programs may produce Unintended Consequences.

In general, respondents expressed confidence in the ability of SRO programs to reduce the occurrence of

TABLE 1. Characteristics of Anchorage Community Survey Sample

Variable	*Category*	*Valid N*	*Percent*
Gender	Male	893	45.3%
	Female	1,080	54.7
Age	18-24 years old	58	2.9%
	25-34 years old	281	14.2
	35-44 years old	390	19.7
	45-54 years old	528	26.6
	55-64 years old	464	23.4
	65 years and older	262	13.2
Race	AK Native/AM Indian (only)	92	4.7%
	Asian (only)	81	4.2
	Black/AF American (only)	54	2.8
	Pacific Islander (only)	19	1.0
	White/Caucasian (only)	1,559	79.9
	Hispanic/Latino (all races)	112	5.7
	Two or more races	18	0.9
	All Other	16	0.8
Educational attainment	L/T High school degree	28	1.4%
	HS degree or equivalent	340	17.4
	Some college, no degree	501	25.7
	Associate's degree	201	10.3
	Bachelor's degree	485	24.8
	Graduate degree	398	20.4
Employment status	Employed	1,208	62.6%
	Not employed	722	37.4
Marital status	Single, never married	196	10.0%
	Married	1,406	71.4
	Separated	27	1.4
	Divorced	231	11.7
	Widowed	79	4.0
	Other	29	1.5
Parental status	Parent of an ASD student	718	36.2%
	Not a parent of an ASD student	1,265	63.8
Anchorage resident	L/T 5 years	204	10.4%
	At least 5 years, L/T 10 years	212	10.8
	At least 10 years, L/T 15 years	202	10.3
	At least 15 years, L/T 20 years	193	9.8
	20 years or more	1,152	58.7

TABLE 1. Characteristics of Anchorage Community Survey Sample

Variable	*Category*	*Valid N*	*Percent*
Household size	1-person household	256	13.5%
	2-person household	753	39.6
	3-person household	362	19.0
	4-person household	345	18.1
	5-or-more person household	186	9.8
Household income (2008)	L/T $20,000	70	3.8%
	$20,000 - $34,999	116	6.3
	$35,000 - $49,999	245	13.4
	$50,000 - $74,999	323	17.6
	$75,000 - $99,999	371	20.3
	$100,000 or more	706	38.6
Language spoken at home	English	1,885	96.7%
	Language other than English	64	3.3

delinquency among students, particularly that which occurs in and around schools. The items constituting general delinquency, which did not specifically reference the school as the site of delinquent behavior, received lower scores on average than those that did. These higher overall scores for school-specific acts of delinquency may indicate that the public perceives some limits in the reach of SRO program delinquency prevention efforts. Moreover, within the School Climate and Safety category, respondents appear to make a distinction between the ability of SROs to *enhance safety* (mean = 4.065) and *establish order* (mean = 3.728) within schools, which may provide some clues as to the public's conception of the police role in schools.

Respondents were also optimistic about the potential for positive spill-over effects from SRO programs. Anchorage residents indicated that SRO programs are a good way to reconfigure – and improve – the relationship between the police and the public. Among the five items included in the Police-Community Relations group, the lowest mean score was 3.5 ("Instill in children the ideal of 'respect for law'"), followed by a mean of 3.7 ("Improve students' attitudes toward police"), a mean of 3.8 ("Build trust between students and police"), and two items with mean scores of greater than 3.9 ("Improve police-community relations" and "Build a partnership between the police and schools"). Mean scores for the four Community Quality-of-Life items ranged from a low of 3.5 ("Limit vandalism of property of neighborhoods near schools") to a high of 3.7 ("Enhance the safety in neighbor-hoods surrounding schools" and "Prevent drug dealing near schools"). Improving the quality-of-life of the community fell in between with a mean score of 3.6.

Survey participants recognized the educational benefits SRO programs can provide to students as well. Most felt that an SRO program would not only contribute to students' understanding of the law and legal system (mean=3.6), but also teach them about potential career opportunities in policing/law enforcement (mean=3.7). Many respondents also reported that they thought an SRO program would provide educational benefits to police officers as well – or at least help police to broaden their own perspectives (mean=3.8). More pragmatically, study participants acknowledged that placing officers in schools would help police departments conduct investigations (mean=3.5).

In addition to asking respondents to assess the ability of SRO programs to achieve their programmatic goals, the survey included three items focused on some potential unintended consequences of these initiatives. Notably, although Anchorage adults did express some reservations about assigning police to schools, most were dubious about possible negative effects. By and large, sample members disagreed with statements suggesting that SRO programs create additional barriers between students and police (mean=2.3), that SRO programs make students, faculty, and staff more fearful (mean=2.3), and that SRO programs undermine the authority of school officials (mean=2.2).

In sum, these data demonstrate that the public has a great deal of confidence in the ability of SRO programs to achieve their objectives. With few exceptions, people

TABLE 2. Descriptive Statistics for SRO Performance Measures

SRO Performance Measures	*Range*	*Mode*	*Median*	*Mean*	*s.d.*
Delinquency Prevention					
Reduce rates of juvenile crime	1–5	4	4	3.623	0.879
Reduce drug use by kids	1–5	4	4	3.620	0.989
Deter children from committing acts of crime/delinquency	1–5	4	4	3.595	0.905
Control bullying	1–5	4	4	3.567	0.929
School Climate and Safety					
Enhance safety in schools	1–5	4	4	4.065	0.738
Reduce violent crimes committed in schools	1–5	4	4	3.936	0.795
Reduce property crimes committed in schools	1–5	4	4	3.873	0.776
Reduce vandalism of school property	1–5	4	4	3.847	0.799
Establish order in schools	1–5	4	4	3.728	0.878
Increase school attendance by children	1–5	3	3	2.826	0.899
Police-Community Relations					
Build a partnership between the police and schools	1–5	4	4	3.942	0.732
Improve police-community relations	1–5	4	4	3.921	0.801
Build trust between students and police	1–5	4	4	3.794	0.824
Improve students' attitudes toward police	1–5	4	4	3.686	0.867
Instill in children the ideal of "respect for law"	1–5	4	4	3.542	0.910
Community Quality-of-Life					
Enhance safety in neighborhoods surrounding schools	1–5	4	4	3.728	0.859
Prevent drug dealing near schools	1–5	4	4	3.683	0.925
Improve the quality-of-life in the community	1–5	4	4	3.625	0.875
Limit vandalism of property of neighborhoods near schools	1–5	4	4	3.453	0.956
Student Education: Law/Legal System					
Help students learn more about law enforcement careers	1–5	4	4	3.693	0.806
Educate students about law and the legal system	1–5	4	4	3.609	0.884
Police Outcomes					
Broaden perspectives of police officers	1–5	4	4	3.788	0.802
Help police conduct investigations	1–5	4	4	3.504	0.873
Unintended Consequences					
Create additional barriers between students and police	1–5	2	2	2.335	0.902
Make students, faculty and staff more fearful	1–5	2	2	2.248	0.928
Undermine the authority of school officials	1–5	2	2	2.210	0.910

believe that the permanent assignment of police in schools is a good way to reduce delinquency; enhance the overall climate of schools; improve community quality of life; strengthen the bonds between police and the community; educate students about law, the legal system, and law enforcement careers; and have a positive impact on the police department as well. Moreover, there is relatively little concern among members of the public that SRO programs would produce negative unintended consequences such as creating additional barriers between police and students, increasing the level of fear in schools, or undermining the authority of school officials.

The question that remains is this: What accounts for this high level of public confidence in SRO programs?

Public Confidence in SRO Programs: An Empirical Model

While there is an expansive research literature examining the demographic, experiential, and contextual factors that influence public attitudes and perceptions of police *in general*, to date there have been no published studies that systematically explore the factors that shape public perceptions of *school resource officers*, let alone public perceptions of *the efficacy of SRO programs*. This paper seeks to fill this gap in the research literature by developing an empirical model of correlates that influence public perceptions of the efficacy of SRO programs.

In recent years, research on public attitudes and perceptions of police has been criticized for being overly simplistic and monolithic with respect to how such public "support" is conceived and operationalized (Brandl, Frank, Wooldredge, and Watkins 1997; Schafer, Huebner, and Bynum 2003; Worrall 1999). While researchers frequently ask the public about their satisfaction or confidence, they typically fail to ask more detailed questions about the particular aspects of policing they are satisfied with or confident in. This is problematic because, as with most things, it is unlikely that an individual's support for police is complete or uniform. Levels of satisfaction and confidence likely vary according to which aspects of policing an individual is asked to evaluate.

These expectations have been confirmed by Worrall (1999), who conducted an analysis of survey data about support for police that was obtained from a nationwide sample of respondents. His study demonstrated that support for police is, in fact, multidimensional. In that study, respondents were asked to provide their assessments of police efficacy (confidence in the ability of the police to *protect* respondents from crime, to *solve* crime and to *prevent* crime) and to rate police treatment of citizens (ratings of police *fairness* and *friendliness*). Logistic regression models revealed that two well-known predictors of public support for police, racial group membership and age, did not have uniform effects on perceptions of police efficacy or the way police treat members of the public. Respondent race was found to influence respondents' confidence in the ability of police to solve crime, but it did not influence respondents' assessments of the ability of police to protect people from, or prevent, crime. Meanwhile, respondent age did not have a significant impact on any of these measures of police efficacy. In contrast, race and age significantly influenced both measures of police treatment of citizens (fairness and friendliness). These findings prompted Worrall to conclude that public support of the police is "fuzzy" (Worrall 1999:62). Similarly, Schafer and his colleagues (Schafer et al. 2003) found in their examination of public support for police in a Midwestern community that the influence of demographic, contextual, and experiential factors varied according to which police satisfaction measure respondents were asked to evaluate: their overall satisfaction with police, their satisfaction with the delivery of "traditional" police services, or their satisfaction with the provision of "community policing" services. As did Worrall, these authors conclude, "[A] complex mix of factors influences how citizens perceive the police and…the significance of specific variables is, at least in part, a function of the way [support for police] is operationalized" (Schafer et al. 2003:462-63).

The Dimensions of Public Confidence in SRO Programs

The analyses that follow are informed by these prior research findings showing that public support for the police is not monolithic or uniform, but rather multifaceted and somewhat "fuzzy" in nature. It is expected that public confidence in SRO programs, like that for the police more generally, will vary according to the specific SRO program outcome domains respondents are asked to evaluate.

Dependent variables. Each of the SRO outcome domains described previously serves as a dependent variable in the analyses that follow (Delinquency Prevention, School Climate and Safety, Police-Community Relations, Community Quality-of-Life, Student Education: Law/Legal System, Police Outcomes, and Unintended Consequences). Confirmatory factor-analytic techniques were used to examine the internal consistency and scalability of each of these outcome domains. Factors were extracted using the principal-factor method, which utilizes the squared multiple correlations to estimate communality. Oblique (promax) rotation of the factor loadings was then performed in order to simplify the factor structure. Average item-test and item-rest correlations were computed to identify weak items for each subscale. Kaiser-Meyer-Olkin (KMO) tests were then performed for the items retained in each sub-scale to test their suitability for factor analysis, and alpha coefficients were computed to measure the internal reliability of each subscale. Results of these analyses are presented in Table 3.

TABLE 3. Diagnostic Statistics and Factor Loadings for Retained Sub-scales

SRO Performance Measures	*Alpha*	*KMO*[a]	*Item-Total Correlation*	*Factor Loading*[b]
Crime/Delinquency Prevention	.847	.812	.686[c]	---
Reduce drug use by kids	---	---	.637	.692
Control bullying	---	---	.637	.693
Deter children from delinquency	---	---	.725	.795
Reduce rates of juvenile crime	---	---	.745	.812
School Climate and Safety	.872	.823	.729[c]	---
Enhance safety in schools	---	---	.759	.811
Establish order in schools	---	---	.687	.736
Reduce violent crimes in schools	---	---	.766	.825
Reduce property crimes in schools	---	---	.706	.760
Police-Community Relations	.892	.830	.764[c]	---
Improve police-community relations	---	---	.732	.775
Build trust between students and police	---	---	.808	.856
Build partnership b/w the police and schools	---	---	.753	.797
Improve students' attitudes toward police	---	---	.764	.812
Community Quality-of-Life	.866	.814	.717[c]	---
Enhance safety in neighborhoods	---	---	.711	.765
Prevent drug dealing near schools	---	---	.719	.775
Limit vandalism of neighborhood property	---	---	.743	.800
Improve the quality-of-life of community	---	---	.693	.746
Unintended Consequences	.795	.705	.639[c]	---
Make students, faculty and staff more fearful	---	---	.697	.620
Undermine the authority of school officials	---	---	.750	.671
Create additional barriers b/w students-police	---	---	.703	.625

Note:

[a]Kaiser-Meyer-Olkin measure of sampling adequacy.
[b]Oblique (promax) factor rotation.
[c]Mean item-total correlation for factor composite.

All four items included in the Delinquency Prevention subscale were retained. Diagnostics for these items showed them to be well-suited for factor analysis. The Bartlett test of sphericity was highly significant (χ^2=3,350; p=.000), indicating sufficient inter-item correlation, and the KMO measure of sampling adequacy was .812, indicating the common variance among these items was very good. The alpha coefficient for these items was .847. Two items – *Reduce vandalism of school property* and *Increase school attendance by children* – failed to load onto the School Climate and Safety subscale. The remaining four items loaded strongly on this factor, however, and demonstrated high internal reliability (alpha=.872). With the exception of one item – *Instill in children the ideal of "respect for law"* – the Police-Community Relations subscale also performed well. The Bartlett test of sphericity was highly significant (χ^2=4,637; p=.000) as was the KMO statistic (.830) and the alpha coefficient (.892). All four of the items comprising the Community Quality-of-Life subscale loaded into a single factor and were retained. As with the other subscales, the Community Quality-of-Life measures scaled well and displayed high internal consistency (alpha=.866). The three items constituting the Unintended Consequences subscale were also found to be well suited to factor analysis, as the Bartlett test of sphericity was found to be highly significant (χ^2=1,817; p=.000) and the KMO measure of sampling adequacy (.705) was adequate. The alpha coefficient for these items was .795. The two remaining subscales – Student Education: Law/Legal System and Police Outcomes – failed to materialize. The items comprising each of these subscales were not well suited to factor analysis (KMO <.6). As a result, these four measures were dropped from the analysis.

In all, five SRO performance subscales are included in the analyses presented below: Delinquency Prevention, School Climate and Safety, Police-Community Relations, Community Quality-of-Life, and Unintended Consequences. Each variable was operationalized as a summated scale.

Predictor variables. Given that no prior research has examined public perceptions of SRO programs, little is known about what factors shape them. Furthermore, what information is available is contradictory. For example, in their studies of students' perceptions of SROs, Brown (2006) and Brown and Benedict (2005) found that female students were more likely than males to report that SROs did a good job of keeping them safe, but Jackson (2002) found that gender did not impact students' perceptions of SROs. Brown and Benedict (2005) also found that students' who had experienced a prior assault while at school were more skeptical of the ability of SROs to enhance school safety than students who had never been victimized at school. To date, these two variables – gender and prior assault while at school – are the only ones that have been shown to have an effect on students' perceptions of SROs in multivariate models. To assess any potential effects of gender or prior victimization on the general public's perceptions of the efficacy of SRO programs, the analyses that follow include the following variables: *gender* (0=male, 1=female) and two measures of previous assault victimization, *felony assault victimization, past 12-months* (0=No, 1=Yes, any household member) and *misdemeanor assault victimization, past 12-months* (0=No, 1=Yes, any household member). In addition, the analysis includes a measure of respondent *fear of victimization by youth*, (0=No fear of victimization, 1=At least some fear of victimization).

In addition to respondent gender, the following respondent demographic characteristics are included in the analyses as well: *age* (continuous), *race* (0=All Other, 1=White/Caucasian), *educational attainment* (0=All Other, 1=High school degree or less), *employment status* (0=Not employed, 1=employed), *marital status* (0=All Other, 1=Single, never married), *parent* of child enrolled in Anchorage School District (0=No, 1=Yes), and *residential tenure* in Anchorage (continuous, in years).

To assess the potential influence of household characteristics on public perceptions of SRO programs, the following three variables are also included: *gross household income* (scored 1 "Less than $20,000" to 6 "$100,000 or more"), *total household size* (continuous), and *language spoken at home* (0=All Other, 1=English).

Based on findings from previous research which suggest that over-arching attitudes have a powerful influence on more specific assessments of police (Brandl, Frank, Worden, and Bynum 1994; Brandl et al. 1997), items are included that measured respondents' overall evaluations of the Anchorage Police Department (APD) across three specific performance domains: *crime prevention*, *order maintenance*, and *fairness*, as well as a measure of the public's level of *confidence* in the APD. The first three items were re-coded into binary measures (0="Poor" or "Fair," 1="Good" or "Excellent"), as was the fourth (0="None," "Very little" or "Some," 1= "Quite a lot" or "A great deal"). Two additional measures are included to account for the potential influence of prior contact with police on perceptions of SRO programs. Prior research has consistently demonstrated that previous interactions with police officers is a factor associated with citizens' evaluations of police performance (Brown and Benedict 2002). This study incorporates two separate measures of police contact: *official contact with police, past 12-months* (0=No, 1=Yes) and *social contact with police officer, past 12-months* (0=No, 1=Yes).

Also included are two measures that capture residents' opinions about K-12 education in Anchorage and prior knowledge of SRO programs, in general. Respondents were asked to register their level of satisfaction with the local K-12 education system on a scale ranging from 1 ("Very dissatisfied") to 5 ("Very satisfied"). This measure was dichotomized (0="Very dissatisfied," "Dissatisfied" or "Neither dissatisfied or satisfied," 1="Satisfied" or "Very

TABLE 4. Descriptive Statistics for Predictor Variables

Variable	*Valid N*	*Min*	*Max*	*Mean*	*s.d.*
Individual demographics					
Age	1,983	18	101	49.351	14.219
Race	1,951	0	1	0.799	0.401
Gender	1,973	0	1	0.498	0.547
Education	1,953	0	1	0.188	0.391
Marital status	1,968	0	1	0.100	0.210
Parent ASD student	1,983	0	1	0.362	0.481
Employment status	1,930	0	1	0.626	0.484
Anchorage residency	1,963	0	71	23.664	14.738
Household characteristics					
Income	1,831	1	6	4.599	1.456
Language spoken at home	1,949	0	1	0.967	0.178
Crime/Victimization					
Prior felony assault	1,974	0	1	0.044	0.205
Prior misdemeanor assault	1,972	0	1	0.070	0.254
Fear youth victimization	1,970	0	1	0.742	0.438
Attitudes/perceptions police					
Crime control	1,983	0	1	0.360	0.480
Order maintenance	1,983	0	1	0.524	0.500
Fairness	1,983	0	1	0.543	0.498
Confidence	1,983	0	1	0.552	0.498
Official contact	1,926	0	1	0.487	0.500
Social contact	1,952	0	1	0.225	0.418
K-12 education/SRO					
Satisfaction K-12 education	1,983	0	1	0.477	0.500
Knowledge SRO programs	1,974	0	1	0.693	0.462
Neighborhood context					
Street crime	1,981	0	1	0.103	0.303
Social disorder	1,981	0	1	0.151	0.358

satisfied"). Participants were also asked if they had ever heard of a school resource officer program (0=No, 1=Yes).

Finally, two measures are included that capture residents' perceptions about the neighborhood in which they live. Recent studies have shown that neighborhood-level factors, particularly the presence of crime and/or social disorder, play an important role in shaping citizen perceptions and evaluations of local police (e.g., Reisig and Parks 2000; Sampson and Bartuch 1998; Wu, Sun, and Triplett 2009). In order to gauge potential neighborhood-level influences on public opinion of SRO programs, this study includes two composite measures of street crime and social disorder within respondents' neighborhoods. The first measure, *presence of street crime*, consists of three items indicating the presence of public drug sales, prostitution, or street gangs. If respondents reported that any of these were present in their neighborhood, the variable was coded 1=Yes, otherwise 0=No. The second measure, *presence of social disorder*, was constructed in similar fashion. Respondents reported whether or not people loitered in public spaces, and whether or not youth in their neighborhood were known to be truant. If participants responded in the affirmative to either of these items, the variable was coded 1=Yes, otherwise 0=No. Descriptive statistics for all of the predictor variables are presented in Table 4.

***Multivariate analyses*.** Table 5 presents the results of the ordinary least-squares (OLS) regression analyses for each SRO performance subscale. Overall, the results support the notion that public support for police is multi-dimensional: respondent confidence in the ability of SRO programs to achieve their programmatic goals was not uniform. While a few variables were consistent predictors of public perceptions of SRO programs, each model was unique with respect to which variables exerted significant influence. Among the variables found to have an effect only one – social contact with a police officer within the past 12 months – was found to be significant in every model. Those who reported interacting with an officer in an informal social setting expressed more confidence in the potential positive outcomes of SRO programs and were less likely to be wary of their unintended consequences than those who did not.

Respondent age, gender, belief in the crime prevention capabilities of the police, overall confidence in the police, and prior knowledge of SRO programs were each found to exert a significant influence on public perceptions in four of the five models estimated. Respondent age was positively associated with respondent belief in the ability of SRO programs to accomplish their goals, but negatively associated with potential unintended consequences. This was also the case for gender, with female respondents expressing significantly higher levels of confidence in SRO programs than males (although the coefficient for Model 5 was not statistically significant). Citizens' evaluations of police crime control capacity and their overall level of confidence in the police each had a positive effect on their perceptions of SRO program efficacy. However, while the former was not associated with concerns about potential negative outcomes, the overall level of confidence was found to be highly significant. Respondents who reported higher levels of confidence were more skeptical of unintended consequences of SRO programs. Prior knowledge of SRO programs exhibited mixed effects on respondents' faith in them. Those who reported prior knowledge of SRO programs expressed significantly less confidence in the ability of an SRO program to reduce delinquency or improve community quality-of-life than those who had no prior knowledge of the concept. However, respondents with prior knowledge of SRO programs were more likely to state that assigning police to schools was a good way to improve police-community relations, and were less likely to be concerned about unintended consequences.

Three measures – race, language spoken at home, and satisfaction with K-12 education – were significant in two of the five models. Notably, while race was found to affect citizens' confidence in SRO programs (Community Quality-of-Life and Unintended Consequences), this effect was in the opposite direction suggested by most of the research published on public attitudes and perceptions of police. With some notable exceptions (e.g., Sampson et al. 1998; Wu et al. 2009), the bulk of extant research has found that Whites hold much more favorable views of police than members of other racial groups, particularly those who identify as Black/African American. However, the results presented in Table 5 show that Whites consistently expressed less confidence in SRO programs than members of other racial groups (although this effect was statistically significant only in Model 4). To explore this finding in more detail, each model was re-estimated with five binary race variables (Alaska Native/American Indian, Asian, Black/African American, Hispanic, and All Other; White/Caucasian was the reference group). The results (not shown) reveal very specific race effects. There was a significant White-Black contrast in each of the first four models (with Whites/Caucasians providing significantly lower scores), but none of the other comparisons were statistically significant. (Notably, the direction of the coefficients for all of the other contrasts was mixed, depending on the subscale, while the White-Black contrast was consistent.) Thus, the significance of race-based differences in public perceptions of the potential positive outcomes of SRO programs detected in the original models was primarily driven by the differing views of White and Black respondents. With respect to the potential negative outcomes of an SRO program, the White-Black difference disappeared and was replaced by two other contrasts: White-Asian and White-All Other, with Whites expressing significantly more enthusiastic outlooks. Language spoken at home was significant in Model 1 and Model 4. Respondents living in households in

TABLE 5. OLS Regression Results

	MODEL 1	*MODEL 2*	*MODEL 3*	*MODEL 4*	*MODEL 5*
	Beta	Beta	Beta	Beta	Beta
Individual Demographics	(*SE*)	(*SE*)	(*SE*)	(*SE*)	(*SE*)
Age	.112***	.009	.098***	.107***	-.064**
	(*.002*)	(*.002*)	(*.002*)	(*.002*)	(*.002*)
Race (White)	-.044	-.023	-.014	-.051*	-.069**
	(*.052*)	(*.050*)	(*.051*)	(*.052*)	(*.053*)
Gender (Female)	.121***	.061**	.055**	.103***	-.037
	(*.036*)	(*.033*)	(*.034*)	(*.037*)	(*.036*)
Education (L/T high	.015	.032	.005	.017	.088***
school)	(*.049*)	(*.041*)	(*.043*)	(*.049*)	(*.046*)
Marital status (Single,	.003	-.025	-.035	.003	.045*
never married)	(*.066*)	(*.059*)	(*.064*)	(*.068*)	(*.064*)
Parent ASD student	.040	.033	.056**	.002	.013
	(*.040*)	(*.036*)	(*.037*)	(*.041*)	(*.040*)
Employment status	.001	-.013	.013	.006	.026
(Employed)	(*.041*)	(*.038*)	(*.038*)	(*.042*)	(*.040*)
Anchorage resident	-.013	-.040	-.044	-.053*	.004
(Years)	(*.001*)	(*.001*)	(*.001*)	(*.001*)	(*.001*)
Household Characteristics					
Income	-.027	.002	-.033	-.051*	-.020
	(*.015*)	(*.013*)	(*.014*)	(*.015*)	(*.014*)
Language spoken at home	-.054**	-.035	-.022	-. 059**	-.032
(English)	(*.121*)	(*.113*)	(*.107*)	(*.114*)	(*.110*)
Crime/Victimization					
Prior felony assault	-.012	-.034	-.043	.002	.049
(Household)	(*.113*)	(*.103*)	(*.105*)	(*.109*)	(*.122*)
Prior misdemeanor assault	-.006	.002	.014	-.021	001
(Household)	(*.085*)	(*.075*)	(*.075*)	(*.086*)	(*.084*)
Fear youth victimization	-.016	-.007	-.006	-.006	-.007
	(*.043*)	(*.039*)	(*.041*)	(*.044*)	(*.042*)
Attitudes/Perceptions of	Beta	Beta	Beta	Beta	Beta
Police	(*SE*)	(*SE*)	(*SE*)	(*SE*)	(*SE*)
Rating: APD crime	.118***	.068***	.080***	.107***	.022
control	(*.039*)	(*.035*)	(*.036*)	(*.040*)	(*.040*)
Rating: APD order	.027	.018	.018	.009	-.040
maintenance	(*.041*)	(*.036*)	(*.037*)	(*.041*)	(*.039*)
Rating: APD fairness	-.006	-.003	.020	.010	-.026
	(*.042*)	(*.036*)	(*.038*)	(*.041*)	(*.040*)
Rating: Confidence in	.103***	.129***	.157***	.095	-.133***
APD	(*.041*)	(*.036*)	(*.038*)	(*.041*)	(*.040*)
Official contact APD	-.035	-.007	.019	.003	-.030
officer	(*.036*)	(*.033*)	(*.034*)	(*.036*)	(*.036*)
Social contact APD	.044*	.061***	.088***	.064***	-.078***
officer	(*.041*)	(*.037*)	(*.038*)	(*.041*)	(*.042*)
School/SRO					
Satisfaction: K-12	.018	.055**	.030	.064**	-.017
education	(*.037*)	(*.033*)	(*.035*)	(*.037*)	(*.039*)
Prior knowledge of SRO	-.048**	.006	.063***	-.040*	-.163***
programs	(*.040*)	(*.036*)	(*.037*)	(*.040*)	(*.039*)
Neighborhood					
Neighborhood problem:	-.032	-.004	-.011	-.053*	-.014
Loitering	(*.058*)	(*.054*)	(*.053*)	(*.058*)	(*.056*)
Neighborhood problem:	.027	-.008	-.008	.036	.033
Street crime	(*.064*)	(*.061*)	(*.061*)	(*.065*)	(*.075*)
Constant:	3.459	3.840	3.431	3.587	3.049
F:	5.820***	4.010***	7.230***	6.050***	9.420***
R^2:	.077	.053	.092	.075	.118
N:	1,745	1,745	1,745	1,745	1,745

Note:
Model 1: Delinquency prevention, Model 2: School climate and safety, Model 3: Police-community relations, Model 4: Community quality-of-life, Model 5: Unintended consequences.
Standardized coefficients reported. *$p < .10$; **$p < .05$ ***$p < .01$

which English was not the primary language were more optimistic about the ability of SRO programs to prevent delinquency and improve community quality-of-life than their English-speaking counterparts. With respect to evaluating the effect of people's opinions of the educational system on their views of the efficacy of SRO programs, the results show that the two were positively associated: those who held positive opinions of K-12 education tended to view SRO programs more favorably, particularly when it came to the ability of SRO programs to improve police-community relations and community quality-of-life.

A number of variables – six in all – were significant in only one model. Among these six, one in particular stood out for its lack of predictive power: being the parent of a child enrolled in the Anchorage School District. Curiously, despite the stakes involved for parents, the only model for which parental status was a significant predictor of public perceptions was Police-Community Relations. Parental status was not associated with respondents' confidence in the ability of police to prevent delinquency, enhance school climate and safety, improve community quality-of-life, or with their concern for potential negative outcomes of SRO programs. Respondents' educational attainment and marital status were significant predictors in Model 5 (Unintended Consequences). Those without a high school education and those who had never been married expressed greater concern for the potential of negative outcomes of SRO programs than others. The effects of residential tenure, household income, and perceptions of neighborhood social disorder were limited to respondents' perceptions of the possible effects of SRO programs on community quality-of-life. Citizens with longer residential tenures and lower incomes, and who reported problems of social disorder in their neighborhood, were more pessimistic about the ability of SRO programs to improve the quality-of-life of the larger community.

Finally, a number of variables did not have an impact on public perceptions of SRO programs in any of the models. Perhaps the most surprising was the consistent lack of effect for each of the three victimization measures. Neither of the violent victimization measures – past 12-month misdemeanor and past 12-month felony assaults of one or more household members – exerted any influence on citizens' perceptions of SRO programs, nor did the fear of victimization by youth measure. Moreover, the item measuring respondents' perceptions of neighborhood-level street crime was not significant in any model. In general then, there was very little evidence to suggest that public confidence in SRO programs stems from concerns about crime. Given the results of prior research, a null finding for the effect for previous official contacts with police officers in each of the models was also unexpected. Perceptions about the police, in general, produced mixed results as well. As mentioned previously, perceptions of the crime prevention capabilities of police, as well as overall confidence in police, were consistent predictors of respondents' confidence in SRO programs. However, the other two measures of police efficacy – order maintenance abilities of the police and assessments of police fairness – were not found to be significant in any of the five models examined. Employment status was the only demographic variable not found to influence public perceptions of SRO programs.

DISCUSSION

Despite the fact that little is known about their effectiveness, the number of school resource officer initiatives in operation in the United States has expanded dramatically since the 1990s. This expansion can be attributed to both increased demands to improve school safety, as well as the advocacy of the federal government, which has provided not only the conceptual grounding for the movement (community policing), but also the financial resources (via the COPS in Schools grant program) for police departments to hire and train SROs. Additionally, although the extent to which they succeed in accomplishing their programmatic objectives remains unclear, the proliferation of SRO programs has met with little opposition. In fact, key stakeholder groups – including school administrators, teachers, students, and parents – believe that these programs are effective and express strong support for them. Furthermore, as this article demonstrates (see Table 2), the public at large shares similar sentiments. The question that remains is, Why? In the absence of empirical evidence documenting the effectiveness of SRO programs, what accounts for such strong public support for them?

This paper examined a variety of potential explanatory factors known to influence public perceptions of police in general (e.g., age, race, previous encounters with police, neighborhood-level crime, and social disorder), as well as some variables that have been shown to influence perceptions of SROs more specifically (e.g., gender, parental status, prior victimization). The influence of some additional measures that have not been seen before in prior SRO research, but which might be expected to impact public perceptions of SRO programs, were also examined (e.g., prior knowledge of SRO programs, primary language spoken at home, and global perceptions of police efficacy). Each of these variables, plus additional measures of respondents' demographic and household characteristics (education, marital status, employment, residential tenure, household income) were entered into a series of regression models in order to estimate their effects on five dimensions of SRO program performance: Delinquency Prevention, School Climate and Safety, Police-Community Relations, Community Quality-of-Life, and Unintended Consequences.

The results of these analyses confirm what other researchers have found previously – namely, that public

support for police is multidimensional and "fuzzy" (Schafer et al. 2003; Worrall 1999). Not only was public confidence in the ability of SRO programs to prevent delinquency, enhance school safety, improve police-community relations, and make a positive contribution to community quality-of-life not uniform, the factors that were found to influence public support for these initiatives were found to differ according to which SRO activity domain respondents were asked to assess. Some variables exerted a consistent influence on the public's perceptions of SRO programs, while others were significant in only one or two models. Still others had no effect whatsoever (see Table 6 for a summary).

TABLE 6. Ranking of Predictor Variables: Public Perceptions of SRO Programs

Variable	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Total*
Social contact APD officer	(+)	(+)	(+)	(+)	(-)	5
Age	(+)		(+)	(+)	(-)	4
Gender (Female)	(+)	(+)	(+)	(+)		4
Rating: APD crime control	(+)	(+)	(+)	(+)		4
Rating: Confidence in APD	(+)	(+)	(+)		(-)	4
Prior knowledge: SRO programs	(-)		(+)	(-)	(-)	4
Race (White)				(-)	(-)	2
Language spoken at home (English)	(-)				(-)	2
Satisfaction: K-12 education		(+)		(+)		2
Education (L/T high school)					(+)	1
Marital status (Single, never married)					(+)	1
Parent ASD student			(+)			1
Anchorage resident (Years)				(-)		1
Income				(-)		1
Neighborhood problem: Loitering				(-)		1
Employment status (Employed)						0
Prior felony assault (Household)						0
Prior misdemeanor assault (Household)						0
Fear youth victimization						0
Rating: APD order maintenance						0
Rating: APD fairness						0
Official contact APD officer						0
Neighborhood problem: Street crime						0

Note:
(+) = Statistically significant, positive regression coefficient. (-) = Statistically significant, negative regression coefficient.
Model 1: Delinquency prevention, Model 2: School climate and safety, Model 3: Police-community relations, Model 4: Community quality-of-life, Model 5: Unintended consequences.

The most consistent predictor of public perceptions of SRO programs was past 12-month social contact with a police officer. Respondents who reported socializing with a police officer in the past year expressed more confidence in the ability of SRO programs to achieve their aims, and were less concerned about potential unintended consequences of introducing police into school settings. This finding may represent a significant advance in our understanding of how citizens understand and evaluate the police. In previous research, measures of police-citizen contact have been limited to *official* contacts – that is, interactions characterized by the performance of official police business, and in which officers are acting within the confines of their institutionally prescribed role as coercive

agents of the state. As important as these interactions may be in the formation of citizens' attitudes and perceptions, however, contact between police and members of the public are not limited to these sorts of circumstances. (Fully 22% of all ACS respondents reported socializing with a police officer in the past year.) To the extent that these findings apply to public opinions of the police more generally, future research should examine the influence of informal police-citizen interactions.

Although their consistency and magnitude of effect varied, respondents' demographic characteristics were also found to have important effects on public perceptions of SRO programs. Most notably age and gender were significant factors in four of the five models estimated. A number of other individual-level characteristics had impacts as well: race (2 models), education (1 model), marital status (1 model), and parental status (1). Significant effects were also found for two household-level measures: language spoken at home (2 models) and household income (1 model). Taken as a whole, these results provide important clues to the complexity that surrounds the formation of public perceptions of SRO programs, and perhaps public opinions of police more generally. The fact that so many demographic characteristics were found to exert influence on respondents' perceptions of SRO programs suggests that people's mental conceptions of the police are deeply intertwined with their sociological and cultural experiences. Therefore, their perceptions of police may be, in large measure, a reflection of their socio-cultural identities rather than simply straightforward evaluations of police practices based on previous experience (Liu and Crank 2010). Given that the prior official contact with a police officer measure was not statistically significant in any of the SRO performance models that were estimated, such a proposition is made even more plausible.

The analyses presented here also highlight the important role institutional legitimacy plays in engendering public confidence for specific police initiatives – like an SRO program. Respondents' perceptions of the efficacy of SRO programs were directly tied to their faith in the ability of police to control crime and, perhaps more importantly, to their overall confidence in the police department. Those who rated the police highly with respect to these two items expressed significantly more optimistic assessments of SRO programs, and vice versa. That the other two measures of police performance were not found to be significant also suggests that public support for SRO programs is contingent upon perceptions of one dimension of the police role (crime control), but not others (order maintenance, quality of treatment). Put another way, the results presented here imply that the public views SRO programs primarily as a crime control strategy. Given the emphasis police departments place on the law enforcement component of their SRO programs, and the dominance of the cop-as-crime-fighter myth in our cultural discourse, this is not surprising.

This research also directs attention to the influence citizens' contextual knowledge and awareness have on their perceptions of police efficacy. The results presented here show that both respondents' understandings of the social contexts police are embedded in, and expected to impact, as well as their knowledge of the specific strategies police use, influenced their evaluations. On the one hand, the people in this study who held favorable opinions of the K-12 education system tended to put more faith in the ability of SRO programs to be effective. On the other hand, prior knowledge about SRO programs produced skepticism about some of their goals (Delinquency Prevention and Community Quality-of-Life), but increased confidence in others (Police-Community Relations and the potential for Unintended Consequences). In addition, people who lived in neighborhoods in which social disorder was in evidence were less likely to believe SRO programs could achieve their objectives.

Limitations

A significant limitation of this study is the measurement of several key concepts. As a secondary analysis of data collected as part of the ACS, this study relied on a number of proxy measures. Three of these proxy measures, in particular, are worth noting. First, the influence of respondents' past 12-month contacts with police was limited to formal and informal interactions with police officers *in general*, rather than encounters with *SROs* specifically. To the extent that people perceive SROs to be "different" than other police officers (see Hopkins 1994), it is possible (perhaps even likely) that the models incorrectly specified the effect of previous contacts with police. In addition, the ACS did not measure respondents' perceptions of crime and social disorder *in schools*; rather, respondents were asked only about their perceptions of crime and disorder in their *neighborhood*. Because public concern about violence *in schools* has been a driving force behind the SRO movement, there is reason to believe that it would also influence public perceptions of SRO programs. As with the measurement of prior police contact, because of the lack of school-specific measures, it is possible that the contextual effects of crime and social disorder have been incorrectly specified. Future research examining public perceptions of SRO programs should make efforts to directly measure these variables.

Additionally, because the ACS measured only Anchorage residents' perceptions of the Anchorage SRO program, the results of this study are also limited in their generalizability. It may be that the findings presented here apply to cities of similar size (approximately 286,000 residents) that have school districts and police departments of similar size (approximately 50,000 students and 340 sworn officers, respectively), but ultimately the validity of

such an assumption is subject to empirical verification. Efforts should be made in the future to replicate this study's findings in cities of varying sizes, school districts of varying size, composition, and levels of crime/delinquency, as well as SRO programs of differing size, scope and strategy.

CONCLUSION

Notwithstanding the limitations of this study, the findings presented suggest that police researchers and practitioners alike should be cautious about making overly broad statements concerning public support (or lack thereof) for police, even when these statements pertain to a specific program or initiative. The public's views of police are remarkably nuanced and the efforts of researchers to understand these views should reflect this reality. This study also offers some grist for the mill of debate regarding the influence that citizens' direct experiences with the police and crime have on public perceptions of police efficacy. The five empirical models presented here included two measures of prior contact with police, two measures of previous household victimization, and two measures of neighborhood crime and social disorder. Of the 30 regression coefficients estimated for these measures, only six were statistically significant, and five of those were for the measure of previous *social* contact with a police officer.

Importantly, while it appears that the public views SRO programs as a delinquency prevention strategy, confidence in them seems to be unrelated to recent experiences with crime or underlying concerns about future victimization. The one experiential variable that did have a consistent influence on public perceptions of SRO programs – prior social contact with a police officer – was an especially notable finding, particularly when contrasted with the null findings for the official police-public contact measure. That informal, social interactions were found to impact citizens' assessments of SRO programs, but official contacts were not, provides important new insights into the ways in which people's mental conceptions of the police are formed. These findings highlight the importance of police-citizen interactions that occur outside the context of an official police action, and the way officers conduct themselves in those situations, for shaping public perceptions and attitudes toward the police. It is often said that police officers "never get a day off" because they are compelled to enact their institutional role whenever the need arises, without exception. Those who take the oath are police officers 24 hours a day, 7 days a week, 365 days a year. The data presented here confirms just that.

Endnotes

[1] Coding for all items: 0=*No*, 1=*Yes*.

[2] Coding for all items: 1=*Strongly disagree*, 2=*Disagree*, 3=*Neither disagree nor agree*, 4=*Agree*, 5=*Strongly agree*.

[3] In its promotional pamphlet, the Anchorage Police Department (APD) states that the aim of the Anchorage SRO program is to "provide a positive law enforcement influence that concentrates on safety and security, encourages relationships between officers, administrators, teachers and students, and fosters education." In addition, APD identifies five specific goals for the program: (1) to enhance safety in and around schools, (2) to reduce juvenile delinquency and crime in the community, (3) to build trust and positive relationships with students, (4) to increase school attendance, and (5) to enhance the learning environment, specifically through anti-bullying efforts (Anchorage Police Department, n.d.).

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APPENDIX A. SRO Program Awareness Survey Questions

Question Text	*Yes*	*No*
Have you ever heard of a School Resource Officer program, whereby police officers are permanently assigned to work in a school in an effort to provide a safe working and learning environment for students, teachers, staff and administrators?	○	○
In your opinion, should the Anchorage School District participate in a School Resource Officer program?	○	○
To your knowledge, does the Anchorage School District currently participate in a School Resource Officer program?	○	○

APPENDIX B. SRO Program Effectiveness Survey Questions

Permanently assigning police to schools is a good way to:	*Strongly Disagree*	*Disagree*	*Neither Disagree nor Agree*	*Agree*	*Strongly Agree*
Reduce drug use by kids	○	○	○	○	○
Enhance safety in schools	○	○	○	○	○
Improve police-community relations	○	○	○	○	○
Establish order in schools	○	○	○	○	○
Increase school attendance by children	○	○	○	○	○
Make students, faculty and staff more fearful	○	○	○	○	○
Instill in children the ideal of “respect for the law”	○	○	○	○	○
Reduce violent crimes committed in schools	○	○	○	○	○
Broaden the perspectives of police officers	○	○	○	○	○
Undermine the authority of school officials	○	○	○	○	○
Enhance the safety in neighborhoods surrounding schools	○	○	○	○	○
Build trust between students and police	○	○	○	○	○
Reduce property crimes committed in schools	○	○	○	○	○
Control bullying	○	○	○	○	○
Build a partnership between the police and schools	○	○	○	○	○
Prevent drug dealing near schools	○	○	○	○	○
Reduce vandalism of school property	○	○	○	○	○
Educate students about law and the legal system	○	○	○	○	○
Limit vandalism of property of neighborhoods near schools	○	○	○	○	○
Deter children from committing acts of delinquency or crime	○	○	○	○	○
Create additional barriers between students and the police	○	○	○	○	○
Help police conduct investigations	○	○	○	○	○
Improve the quality of life in the community	○	○	○	○	○
Reduce rates of juvenile crime	○	○	○	○	○
Improve students’ attitudes toward the police	○	○	○	○	○
Help students learn more about law enforcement careers	○	○	○	○	○

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Blame the Media? The Influence of Primary News Source, Frequency of Usage, and Perceived Media Credibility on Punitive Attitudes

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Abstract: *Few studies examine the effect of media (particularly the Internet) on punitive attitudes of college students and none examine the credibility of sources of news that students consume. This study employs survey research to examine the effect of media in multiple news formats (i.e., national and local television, national and local newspapers, and Internet news), the frequency of news media usage, and perceived news credibility on punitiveness among 373 college students enrolled in a state university in the Western region of the United States. Of those studies that examine punitive attitudes among college students, it is rare for researchers to consider the impact of media and media credibility despite the fact there is clear evidence that media effects are strong predictors of attitudes in the general population. The results of this study indicate that although no primary news source was related to punitiveness those respondents with a higher frequency of exposure to local TV news showed significantly more punitive attitudes. Contrary to expectations, the influence of the Internet as a news source on punitiveness appears to be unimportant as is the credibility of any source of news on punitive attitudes*

Keywords: education, Internet, media, media credibility, punitive attitudes

INTRODUCTION

In recent years, crime control policies have become increasingly punitive with the intent of "getting tough" on crime. These more punitive measures are the opposite of the rehabilitative ideal that gave way to penal welfarism, which dominated penal policy in the early and mid-20th century (Cavender 2004; Garland 2001). These "get tough" policy initiatives, which include mandatory minimum sentences, such as Three-Strikes Laws, as well as the War on Drugs, have resulted in an unprecedented number of adults being incarcerated in correctional facilities or being placed in community correctional programs in the United States (Austin and Irwin 2001; Beckett and Sasson 2000; Blumstein 2007; Costelloe, Chiricos and Gertz 2009; Currie 1998; Garland 2001; Hogan, Chiricos and Gertz 2005; Mauer 1999; Tonry 1995; Vogel and Vogel 2003; Whitman 2003). Since the

early 1980s, the heavy reliance on incarceration as a penal policy has resulted in a 373% rise in the prison population (Bureau of Justice Statistics 2009). Offenders convicted of minor crimes during this period have been subjected to more stringent sentencing policies (i.e., prison and intermediate sanctions instead of probation) than those sentenced in the mid-20th century under penal welfarism and individualized rehabilitation policies. Moreover, inmates are serving lengthier prison terms because of mandatory minimum and career-criminal statutes (Blumstein 2007).

While "get-tough" policies have prevailed in recent years, it is important to note that over the last two decades, crime has declined (at roughly 5% per year). Thus, it is difficult to understand why the American criminal justice system embraced punitive policies and embarked on the "get-tough" movement in the 1980s – a movement that continues to impact correctional populations today at both the institutional and community levels (Austin and Irwin 2001).[1]

While there are various explanations for the support of punitive measures, there are scholars who feel that in the United States these policies do not operate without strong, widespread public support (Cullen, Fisher and Applegate 2000; Garland 2001; Roberts, Stalans, Indermauer and Hough 2003; Warr 1995). What can lead to an increase in support for punitive crime control policies? Factors identified in previous studies include individual background/demographic characteristics (i.e., sex, age, race, education level attained, and political ideology), regional differences among the American public, religious affiliation/religious salience, racial attitudes, and crime salience. Generally speaking, research has concluded that males, whites, southerners, conservatives, religious fundamentalists, and individuals with negative attitudes about racial minorities and those who are undereducated are more likely to support punitive policies (Applegate, Cullen and Fisher 2002; Barkan and Cohn 1994, 2005; Baumer, Messner and Felson 2000; Borg 1997; Britt 1998; Chiricos, Welch and Gertz 2004; Cohn, Barkan and Halteman 1991; Costelloe et al. 2009; Feiler and Sheley 1999; Hogan et al. 2005; Leiber and Woodrick 1997; McCorkle 1993; Rossi and Berk 1997; Sandys and McGarrell 1997).

In addition to the extensive list of factors discussed above, when examining the increase in support for punitive crime control policies, the effect of the media (i.e., television, newspapers, radio, and the Internet) has also been considered. Without a doubt, crime is considered a serious and newsworthy issue and several studies suggest that most people receive information about crime from news reports (Barak 1994; Surrette 1984, 1990; Vandiver and Giacopassi 1997). However, the question must be asked – are these news reports accurate and does the manner and frequency of coverage increase crime fear and crime control punitiveness among the viewing public?

The generation, presentation and accuracy of crime news have been considered for several decades. Reports vary across medium and format, as well as by region of the country (i.e., larger urban areas may be selective about which murders are reported due to the frequency of homicide and space limitations, while smaller suburban areas are likely to report on all homicides as they are more infrequent). Newsprint and electronic media tend to contain more stories that focus on sensational or bizarre violent crime (Chermak 1994; Chibnall 1975; Garofalo 1981; Humphries 1981). Furthermore, a study by Chermak (1998) indicates that crimes with multiple victims or other elements deemed newsworthy (i.e., rare victim characteristics) are given precedence over stories that involve a single victim.

As previously noted, the crime rate in the United States has declined while public support for punitive measures has increased; some argue that this is largely because media outlets portray crime as a major social problem, and emphasize violent and exceptional crime for entertainment purposes or political gain, giving the public an erroneous view of the nature and extent of crime in our society (Barak 1994; Beale 2006; Cavender 1998, 2004; Dowler 2003; Dowler, Flemming and Muzzatti 2006; Garofalo 1981; Krisberg 1994; Marsh 1991; McDevitt 1996; Oliver 1994; Pfeiffer, Windzio and Klemann 2005; Roberts and Doob 1990; Surette 1984, 1990, 1998). Given this proposed skewed view of crime in the news, it is not surprising that that the media has been accused of using crime reports to generate fear among the public and even to create moral panics for the purposes of enacting legislation (Chermak 1994). Others have identified the media as the most important influence in the shift from penal welfarism to the current crime control model (Cavender 2004).

It would be erroneous, however, to state that the media act alone in generating crime news. Media outlets only have access to what criminal justice agencies provide as source material for crime stories; thus, agents of criminal justice, especially the police, have a significant influence on which crime events may become crime news (Chermak 1994; Chibnall 1975). Consumers of crime news also have an influence as media outlets cater to "perceived viewer demand and advertising strategies, which frequently emphasize particular demographic groups with a taste for violence" (Beale 2006:398). Newspapers may print crime stories in order to lure readers in and television programming – news, primetime drama programs and reality shows – highlights crime because citizens are both fascinated with and concerned about crime and criminals. Through crime coverage, the media can accomplish its responsibility of communicating information in order to help protect the public while satisfying its commercial interests in capturing more market share.

Neglected in previous research examining the effect of media on punitive attitudes of the public, are public perceptions concerning the credibility of the media sources they access. While scholarship in the field of communications has examined citizens' perceptions of the credibility of news sources, there currently are no published studies (of which we are aware) that examine perceptions of media credibility and the role that "credible" media outlets have on punitive attitudes.

The purpose of the present paper is to: (1) explain the link between media usage and punitive attitudes, (2) review the key sources of news that citizens utilize, (3) examine the literature published by communications scholars that discusses citizen perception of credibility of these news sources, and (4) empirically test the perceptions of media credibility and the effect that these perceptions have on punitive attitudes.

We investigate these issues among 373 college students enrolled in a state university in the western region of the United States. Among studies examining punitive attitudes of college students, it is rare for researchers to consider the impact of media (particularly the Internet) and media credibility, despite the fact there is clear evidence that media effects are strong predictors of attitudes about crime in the general population (Cavender 2004; Chiricos, Eschholz and Gertz. 1997; Chiricos, Padgett and Gertz. 2000; Gilliam and Iyengar 2000; Liska and Baccaglini 1990; Pfeiffer et al. 2005). Thus, this study makes three important contributions to communications research and the punitive attitudes literature. First, it is one of a few studies that specifically examines the effect of media on punitive attitudes among college students. Second, it is the first study (of which we are aware) that explores the Internet as a form of media and its possible effects on student punitiveness. Third, this is the only study to consider assessments of media credibility on punitiveness. Perceptions of credibility are important as they may impact how one processes the content of media messages which, in turn, could impact punitive orientations or the lack thereof.

LITERATURE REVIEW

Media Consumption and its Effect on Punitive Attitudes: An Overview

Without a doubt, crime is a societal problem that should exact concern from the public and policy makers alike (Cavender 2004). However, it has been argued that "claims makers mobilize the media to get their concerns onto the public agenda" (Cavender 2004:337). This proves to be an effective strategy, as the more saturated an audience is with a particular issue, the more concerned they are by it (Iyengar and Kinder 1987). News consumers are indeed saturated with crime-focused stories; research indicates that most local TV stations begin the evening news with a crime story, that one third of news stories concern crime, and that crime news is twice as common as political news (e.g., see Klite, Bardwell and Salzman 1997; Angotti 1997). In recent years, researchers have argued that crime has ceased to be reported solely for informative purposes and is increasingly presented as entertainment (Beale 2006; Cavender 1998, 2004; Dowler 2003; Dowler et al. 2006).

Violent and sensational crimes are often highlighted in news reports, serving to increase the fear of crime and/or the perceived likelihood of victimization the public may experience. Recent studies indicate the more citizens watch local television news reports, the more they consider crime to be problematic in their community (Chiricos et al. 1997; Chiricos et al. 2000; Eschholz et al. 2003). As such, they may also be more supportive of punitive criminal justice policies (Gilliam and Iyengar 2000; Pfeiffer et al. 2005).

Media Sources and Punitive Attitudes

Media sources vary in style and content and can, therefore, have differential impacts on how citizens view crime and criminals. National television news has increased its crime coverage since the early-1990s. Much of this shift has occurred because of the need for profit in a time of economic pressure, as local television news has increased its coverage of crime stories, making crime the number one topic addressed by local television news (Beale 2006). Similar to national television news, local newspapers have begun to feel the effects of budget reductions in the past twenty years. In efforts to work with limited funding, newspapers print sensational crime stories in tabloid form to gain readership (Beale 2006).

Prior to the 21st century, very little was known about how and how often the Internet was used as a news source (Flanagin and Metzger 2000, 2001); thus the impact of the Internet as a news source on punitive attitudes is unknown. However, it is important to consider news about crime that is communicated through the Internet because of its growing popularity with the American public. As of 2006, 74% of American adults engaged in online activity, and surveys have revealed that the Internet has improved how adults retrieve information about news and health matters, purchase merchandise, fulfill employment obligations, and pursue hobbies (Rainie 2010). Moreover, considering that the Internet is less regulated than television, newsprint, and radio, it is possible that the coverage of crime and offenders could be even more graphic, dramatized, and distorted than traditional news sources.

Public Perceptions Concerning the Credibility of News Sources

When considering the variety of media channels available to the public, it is important to examine public perceptions concerning the credibility of these sources. Contemporary communications research examines the perceived credibility that citizens attribute to these sources (Kiousis 2001; Schweiger 2000). Credibility can be defined as the level of trustworthiness and expertise to be attributed to the medium under consideration. If individuals perceive a particular form of media to be credible, they will grow to rely on this outlet, thus increasing their exposure to news from this source (Wanta and Hu 1994). News source credibility is especially important given that citizens have constraints on their time (Schweiger 2000) and, because of this, may be more likely to select one medium from which to receive news reports. Thus, the medium selected by members of the public as a primary source for news stories may be driven by perceived credibility.

Communications scholarship has delineated two important forms of credibility. The first is *source credibility*, which focuses on the key communicator in the medium of interest. For example, a news anchor may be especially adept at presenting the content of a news story, which can lead to greater trust among listeners/viewers, and a corresponding likely increase in the credibility of this news medium for these citizens (Kiousis 2001). Key components of source credibility include perceived safety, qualifications, dynamism, competency, and objectivity (Berlo, Lemert and Mertz 1970; Kiousis 2001; Whitehead 1968). The second form of credibility is *medium credibility*, whereby people judge the form of media itself. While views concerning the credibility of each medium differ, it is important to note that there seems to be an overall questioning of the credibility of each media source by the public (Johnson and Kaye 1998). The research concerning the medium credibility of major media outlets will be detailed below, as it is important to understand these differences when considering the present study.

Not as much is known about the level of credibility the public attributes to newspapers compared to other news mediums because, generally speaking, the public is judging news print as a whole, and not individual news writers. While many American citizens still read news print media, television news is generally held to be more credible than newspapers. Unlike newspapers, the public attributes their perception of credibility to the individual anchorman/anchorwoman, because seeing the person reporting an event can lead to increased trust in news reported (Kiousis 2001).

As of 2009, 14% of Americans "read a newspaper online yesterday," up from 9% in 2006, with younger generations being more likely to read news online than in print (Pew Trust 2009). However, studies indicate mixed findings about the perceived credibility of the Internet as a news source. When comparing the perceived credibility of traditional media to the Internet, some have found the Internet to be less credible as a news source (Flanagin and Metzger 2000; Pew Research Center 1996), while others have reported that the Internet is viewed as more credible (Brady 1996; Johnson and Kaye 1998). Considering the pervasive use of the Internet today, it is clear that more current studies concerning the use and credibility of the Internet as a news source are needed before firm judgments can be made.

Given that previous research has demonstrated the strong influence of media on public attitudes about crime, this study explores the role of media in multiple news formats (particularly the Internet). In particular it examines the frequency of exposure to sources of news media, and seeks to determine what effects, if any, the perception of news credibility among multiple media sources has on punitive attitudes. The potential impact of the Internet as a news source on punitiveness is also explored relative to other news sources. The influence of the Internet on attitudes about crime could be particularly salient among a population that is highly likely to utilize Internet—much like other media sources (particularly local TV news) hold influence over those with differential levels of exposure (Chiricos et al. 1997; Chiricos et al. 2000; Eschholz et al. 2003). One of the most important demographics related to Internet access and use is education (National Telecommunications and Information Administration 2004; Rainie 2010; Robinson et al. 2003). Those with a college education are more likely to use the Internet to obtain news and information than those with less education (Robinson et al. 2003). Ninety-three percent of 18-29 year olds use the Internet—the highest proportion of use when compared to any other age group (Rainie 2010). Furthermore, students pursuing a college education spend an average of 21.3 hours a week online (EDUCAUSE Center for Applied Research 2009). Thus, college students are a salient population with whom to examine the impact of Internet news sources, the amount of time spent using the Internet for accessing the news, and the perceived credibility of such sources on punitive attitudes.

METHODOLOGY

A self-administered survey was conducted during the spring semester of 2008 on a university campus in the western region of the United States. The university is rated a Carnegie Engaged University and is a public, doctoral-granting four-year institution with a student population of above 25,000. The majority of students on this campus are between the ages of 19-21, 52% are female, and slightly over 13% are minorities. A wide variety of classes were purposively chosen as a source of the student sample in order to represent several disciplines,

as well as upper and lower division courses in which instructors agreed to allow researchers access to their classes. Only students who were present on the day that the survey was administered had the opportunity to participate in the study. All students were informed that their participation in the study was voluntary and that their responses would be anonymous. Approximately 373 students completed the survey with a response rate of 80%.

Select demographic characteristics for the sample are displayed in Table 1. As shown, there are a higher proportion of females (63.4%) than males (36.6%) in the overall sample[2]. It is not unusual to realize greater survey participation from females (Lavrakas 1987), particularly in samples comprised of college students (e.g., see Mackey and Courtright 2000). The most common race/ethnicity was White, which was not surprising given that Whites comprise the majority of students at this campus. Minorities constitute just over 20% of the sample while representing only 13% of the total campus population.[3] Most of the respondents in the sample are between the ages of 18-22. Twenty-six percent of the sample identified as a Criminology and Criminal Justice (CRCJ) major or minor[4]. Fifteen percent reported having been the victim of a violent crime and 37% reported having been a victim of a property crime.[5]

Table 1. *Descriptive Statistics for the Sample*

Variable	Attribute	Total
Sex	Male	36.6%
	Female	63.4%
Race	White	79.3%
	Black	2.5%
	Hispanic	14.7%
	Other	3.4%
Age	18-19	36.5%
	20-22	53.0%
	23-25	5.8%
	26 & over	4.7%
Major	CRCJ	26.8%
	Other	73.2%
Classification	First year	23.0%
	Sophomore	30.5%
	Junior	29.4%
	Senior	17.1%
Victim - violent	No	85.0%
	Yes	15.0%
Victim - property	No	63.0%
	Yes	37.0%

Dependent Variable

Punitive attitudes (PUNITIVE) were measured by respondent support for a variety of criminal justice policies[6] that have been used in previous studies (Chiricos et al. 2004; Costello et al. 2009; Hogan et al. 2005). Respondents were asked "On a scale of 0-10, with 0 indicating no support and 10 indicating strong support, how much do you support the following proposals?" These included:

- Making sentences more severe for all crimes;
- Using the death penalty for juveniles who murder;
- Sending repeat juvenile offenders to adult court;
- Putting more police on the streets, even if that means paying higher taxes;
- Taking away television and recreational privileges from prisoners;
- Locking up more juvenile offenders;
- Making prisoners work on chain gangs;
- Limiting appeals to death sentences;
- Using chemical castration for sex offenders;
- Executing more murderers; and
- Using more mandatory minimum sentencing statutes such as Three-Strikes Laws for repeat offenders.

Since aggregate measures of punitiveness were commonly used in previous research (e.g., see Chiricos et al. 2004; Costello et al. 2009; Hogan et al. 2005), an index

Table 2. *Punitive Attitude Index*

Item	**Mean (st. dev.)**	**Alpha**
Making sentences more severe for all crimes	4.41 (2.72)	
Death penalty for juveniles who murder	2.98 (2.99)	
Sending repeat juvenile offenders to adult court	6.06 (2.88)	
Putting more police on streets, even if higher taxes	4.27 (2.67)	
Taking away TV & recreational privileges from prisoners	4.53 (3.38)	
Locking up more juvenile offenders	4.10 (2.78)	
Making prisoners work on chain gangs	4.53 (2.97)	
Limit appeals to death sentences	4.39 (3.08)	
Use chemical castration for sex offenders	4.61 (3.55)	
Executing more murderers	4.73 (3.40)	
Using more mandatory minimum sentencing, such as 3 strikes laws	5.58 (2.92)	
11 item total punitive index	50.21 (23.03)	.889
Index range: 0-110		

of punitiveness was created by summing the abovementioned items (Cronbach's alpha .889) with a high score constituting more punitiveness (range 0-10). Table 2 contains standard deviations and means for each specific item and for the index as a whole. The mean for the index is 50.21.

Independent Variables

The relationship between media and punitiveness is the primary interest of the present study. To investigate the influence of news media consumption on punitive attitudes, we utilized variables that assessed respondents' primary media source for news, frequency of exposure, and perceptions of credibility of various sources of news.

The primary media source variable was designed to measure the salience of the news source for each respondent to determine which medium was most important to them as suggested by Weitzer and Kubrin (2004). Respondents were asked "What is your primary source of crime news information?" and then prompted to select: Internet news (INTERNET),[7] local TV news (LOCALTV), national TV news (NATLTV),[8] local newspaper (LOCPAPER), national newspaper (NATLPAPER) or other (OTHERNEWS) whereby respondents could only select one primary news source. Each of these items was dichotomized (1, 0) with Internet news serving as the reference category.

The frequency of media news exposure was measured by several questions that asked respondents about their media usage patterns (regardless of what they indicated was their primary news source). The first variable examined respondents' reports of whether they had ever accessed crime news on the Internet (NEWSNET). This variable was dummy coded (0, 1), with 1 indicating that they have accessed crime news via the Internet. Respondents were also asked how often they used the Internet for accessing news information (OFTENNET), with responses ranging from never to several times per day. TIMESLOCTV examined how many times the respondent watches local TV news in a typical week, while TIMESLOCPAP measured how many times they read the local newspaper in a typical week. These items, or similar variations of them, have been utilized in previous research (e.g., see Chiricos et al. 1997; Chiricos et al. 2000; Eschholz et al. 2003; Weitzer and Kubrin 2004).

Media credibility was measured by asking respondents to "rank the credibility or believability of the following news sources on a scale of 0 to 10, with 0 being not at all credible and 10 being very credible." Respondents ranked the credibility of the Internet, local TV news, national TV news, local newspaper, and national newspaper. This measure most closely aligns with what communication scholars call "medium credibility" whereby the medium itself is judged by its own merit (e.g., see Johnson and Kaye 1998). Due to high correlations among the media credibility measures, to avoid multicollinearity issues in the multivariate analysis, combined measures were created to represent three central indicators of credibility that represent the Internet (NETCRED), local sources of news (LOCALCRED), and national sources of news (NATLCRED). The internet credibility measure (NETCRED) was used as is (i.e, 0-10). The average score for the credibility of local TV news and local newspaper is used as a measure of local news credibility (LOCALCRED). Likewise, the average score for credibility of national TV news and national newspaper is used as a measure of national news credibility (NATLCRED). These measures were combined based on the relevance of local news in predicting attitudes regarding crime in previous research (Chiricos et al. 1997; Chiricos et al. 2000; Eschholz et al. 2003).

Control Variables

The salience of crime is an important predictor of punitiveness with high issue salience producing more punitiveness (Chiricos et al. 2004; Costelloe et al. 2009; Garland 2001; Hogan et al. 2005). Crime salience was measured using a number of variables to differentiate between affective and cognitive indicators. These variables include: victimization, the fear of crime (a more affective indicator of crime salience), respondent concern about crime (a more cognitive indicator of crime salience), and one measuring perceptions of the prevalence of violent crime in the community (e.g., see Chiricos et al. 2004; Ferraro and LaGrange 1987).

Victimization was measured by asking respondents if they had ever been a victim of violent crime (VICTVIOL) and property crime (VICTPROP). Those respondents indicating crime victimization were coded as 1 and all others as zero for each respective type of crime victimization. Studies have produced mixed evidence on the impact of victimization on punitiveness with some finding victims are more punitive and other studies finding no effect (e.g., see Applegate, Cullen, Fisher and Vander Ven 2000; Barkan and Cohn 2005; Baron and Hartnagel 1996; Costelloe 2004; Lane 1997; McCorkle 1993; Rossi and Berk 1997). One reason for these mixed findings relates to methodological differences in these studies, the manner in which victimization was operationalized (i.e., most studies do not disaggregate by victimization type), and the sample under examination. Nevertheless, victimization continues to appear as a control variable in research on punitive attitudes.

An array of studies has demonstrated that the fear of crime is an important predictor of punitive attitudes with those who are more fearful reporting higher levels of punitiveness (Applegate et al. 2000; Barkan and Cohn 1994; Costelloe et al. 2009). For this study, the fear of crime was determined by respondent answers to "On a scale of 0-10, with 0 being not fearful and to being very

fearful, how much would you say you fear the following crimes?" These crimes included: being murdered; raped/sexually assaulted; attacked by someone with a weapon; having someone break into your home; having your car stolen; being robbed or mugged on the street; having your property vandalized/damaged; being cheated, conned, or swindled out of your money; being approached on the street by a beggar or panhandler; and being beaten up or assaulted by strangers.[9] These items were added to create a fear of violent crime index (FEARVIOL) and a fear of property crime index (FEARPROP), with a higher score indicating more fear on both (Cronbach's alpha of .918 and .871, respectively).

To measure concern about crime (CONCERN), respondents were asked "On a scale from 0-10, with 0 being not at all concerned and 10 being very concerned, how concerned are you about crime?" The respondent's perception of crime prevalence was measured by asking if they believed violent crime in the area they lived had "increased, decreased, or stayed the same in the past year?" For the purposes of analysis, this was converted to a dummy variable (increased=1) by combining the "decreased" and "stayed the same" response options.

Those students reporting a declared or intended major or minor in Criminology or Criminal Justice (CRCJ) were coded as 1 and all others as 0.[10] We control for this variable as some studies suggest criminal justice majors are more punitive (Lambert 2004; Mackey and Courtright 2000), while other studies indicate they are less punitive in their attitudes about crime (Bohm and Vogel 1991; Lane 1997; McCarthy and McCarthy 1981; Tsoudis 2000). The divergent findings in these studies are interesting given that research has consistently demonstrated that education generally tends to decrease punitiveness (e.g., see Barkan and Cohn 2005; Baumer, Messner and Felson 2000; Britt 1998; Chiricos et al. 2004; Rossi and Berk 1997).

The influence of college experience is argued to decrease punitive orientations, although this can vary by major and the punishment policy under examination (Farnworth, Longmire and West 1998). Others disagree indicating that on many campuses over half of first-year students drop out of school by their senior year and those students "who survived until their senior year were more liberal to begin with" (e.g., see Eskridge 1999). To explore whether student rank had an impact on punitive attitudes, we include dummy variables for student status (FIRSTYR, SOPH, JUNIOR, SENIOR), with seniors serving as the reference group in the regression models.

Religious fundamentalists are generally thought to be more punitive (Barkan and Cohn 2005; Borg 1997; Britt 1998; Howells, Flanagan and Hagen 1995; Ellison and Sherkat 1993). To measure religious fundamentalism (RELFUND) we relied on an established indicator (Barkan and Cohn 2005). Respondents were asked, "Do you agree with the following statement: The Bible is the actual word of God and is to be taken literally?" Respondents who agreed were coded as 1=religious fundamentalists, while those who did not agree were coded as zero. Respondents were also queried about their religious preferences and a dummy variable (RELIGION) was computed with 1 indicating those with a stated religious preference and 0 representing those respondents who were agnostic, atheist, or had no specific preference.

Individuals with a conservative political ideology often espouse more punitive beliefs (Applegate et al. 2000; Barkan and Cohn 1994; Baumer et al. 2000; Borg 1997; Chiricos et al. 2004). Thus, political Ideology (POLITICAL) was established by respondent assessment of their level of conservatism or liberalism, "On a scale of 1 to 7, with 1 being very conservative and 7 being very liberal, how conservative or liberal would you rate yourself?"

Punitive attitudes are often associated with racial prejudice and our measure of racial prejudice was created from a series of indicators (Chiricos, Welch and Gertz 2004). Respondents were asked, "On a scale of 0-10, with 0 indicating strongly disagree and 10 indicating strongly agree, how much do you agree or disagree with the following statements?"

- It would be okay if a member of my family wanted to bring a friend of a different race home for dinner.
- It would bother me if a person of a different race joined a social club or organization of which I was a member.
- It would bother me if I had a job in which my supervisor was a different race than me.
- It would be okay if a family of a different race with an income similar to mine were to live nearby.
- It would be okay if a person of a different race were to marry into my family.

These indicators were added together to create an index of racial prejudice (Cronbach's alpha .685), with a high score indicating high levels of racial prejudice. Before construction of the index, the last two questions and the first question were re-coded to be consistent with detecting indicators of racial prejudice across all items.

A respondent's region of origin is often an important predictor of punitive attitudes with Southerners in the United States representing the most punitive group (Barkan and Cohn 1994; Baumer et al. 2000; Chiricos et al. 2004; Rossi and Berk 1997). As such, respondents were asked to report their home town and home state. Census categories were utilized to classify respondents into regions, with those from Southern states (SOUTH) designated as 1 and all others 0. Other included variables are sex (females=1, males=0); age, and race. Due to the predominance of white respondents in the sample, only the

Table 3. *Descriptive Statistics for Media Variables*

Variable	Attribute	
Primary News Source	Internet	39.8%
	Local TV News	23.2%
	National TV News	19.9%
	Local Newspaper	11.6%
	National Newspaper	1.5%
	Other	4.0%
Ever read crime news on Internet	Yes	80.9%
	No	19.1%
How often use Internet for news	Never	6.6%
	Less than once per month	5.5%
	Once per month	8.3%
	Several times per month	7.2%
	Once per week	16.3%
	Several times per week	20.2%
	Once per day	24.1%
	Several times per day	11.6%
Times watch local TV news	0	16.8%
	1-3	50.3%
	4-6	20.7%
	7-10	11.0%
	14-25	1.1%
Times read local paper	0	16.8%
	1-2	30.0%
	3-5	44.0%
	6-10	9.2%
Internet news credibility	0-3	14.9%
	4-6	40.0%
	7-10	45.1%
Local news credibility	0-3	6.8%
	4-6	29.3%
	7-10	64.0%
National news credibility	0-3	6.3%
	4-6	19.9%
	7-10	73.9%

dummy variable for whites (WHITE) was entered into the regression models.

Analysis

Through the use of ordinary least squares (OLS) regression this study examined the effect of media in multiple news formats (i.e., national and local television, national and local newspapers, and the Internet), frequency of usage, and perceived news credibility on punitiveness. Despite the dearth of research in this issue among college students, we examined several *exploratory* hypotheses. First, it is reasonable to argue that the Internet, as a relatively new source of news, may be related to punitiveness given its relatively unregulated nature, what passes as "news," and the increasing number of young people that obtain news from the Internet. Thus, it is hypothesized that those who prefer the Internet as a news source, and use it frequently, will be more punitive. Second, it is also expected that those sources of media that are perceived as most credible will have the most influence on public (in this case student) opinion about crime.

FINDINGS

As shown in Table 3, the most commonly reported news source for our student sample was the Internet, with almost 40% of the sample identifying this as their primary source of news. Approximately 23% identified local TV news as their primary news source, while 20% identified this as the national TV news. Almost 12% reported that a local newspaper was their primary news source, 1.5% indicated a national newspaper (e.g., *USA Today*) was their

primary news source and 4% identified some other news source. The most common news sources included in the other category was friends/family.

With respect to whether respondents utilized the Internet for news (NEWSNET), 19% of the sample reported never having accessed crime news on the Internet while 81% reported that they had done so. For those using the Internet for news (OFTENNET), 24% of respondents reported using the Internet daily to access their news while 20% report accessing the Internet several times a week for news. About 16.8% of the respondents report that they do not watch local TV news in a typical week and approximately half of the respondents watch local TV news (TIMESLOCTV) 1-3 times in a typical week, 21% watch 4-6 times, 11% watch 7-10 times, and 1% watch 14-25 times. Almost 17% of the sample report that they do not read the local newspaper in a typical week (TIMESLOCPAP), 30% report that they read the local paper 1-2 times per week, 44% report that they read the paper 3-5 times, and 9% report that they read the local paper 6-10 times in a typical week.[11]

Table 4. *Variables Included in OLS Regression Equations*

Variable	Description	Mean	S.D.	r w/ DV
PUNITIVE	Punitive attitudes index - 11 items	50.21	23.03	1.00
INTERNET	Internet is primary news source (0=no; 1=yes)	.40	.49	-.066
LOCALTV	Local TV is primary news source (0=no; 1=yes)	.23	.42	.020
NATLTV	National TV is primary news source (0=no; 1=yes)	.20	.40	.205***
LOCPAPER	Local paper is primary news source (0=no; 1=yes)	.12	.32	-.089
NATLPAPER	National paper is primary news source (0=no; 1=yes)	.02	.40	-.017
OTHERNEWS	Other primary news source (0=no; 1=yes)	.04	.20	-.155**
NEWSNET	Ever read crime news on Internet (0=no; 1=yes)	.81	.39	.027
OFTENNET	How often Internet is used for accessing news	5.36	2.02	.042
TIMESLOCTV	Times local news is watched in a typical week	2.34	2.41	.261***
TIMESLOCPAP	Times local paper is read in a typical week	2.96	2.19	.117*
NETCRED	Credibility of Internet as a news source	5.96	2.08	.008
LOCALCRED	Credibility of local news sources	6.58	1.89	.112*
NATLCRED	Credibility of national news sources	7.11	2.16	.193***
VICTIMVIOL	0=not victim; 1=ever been victim of violent crime	.15	.36	-.033
VICTIMPROP	0=not victim; 1=ever been victim of property crime	.37	.48	-.076
CONCERN	Concern about crime	6.23	2.06	.254***
FEARVIOL	Fear of violent crime	22.14	15.64	.324***
FEARPROP	Fear of property crime	17.05	10.23	.265***
CRINC	0=crime decreased/stayed same; 1=crime increased	.16	.37	.049
RELFUND	Bible to be interpreted literally (0=no; 1=agree)	.26	.44	.177**
RELIGION	Religious affiliation	.65	.48	.181**
POLITICAL	Political ideology	4.55	1.46	-.231***
PREJUDICE	Racial prejudice	3.24	6.61	.192**
SOUTH	Home state in South (1=South)	.05	.22	-.013
SEX	Sex of respondent (0=male; 1=female)	.63	.48	-.014
AGE	Age of respondent in years	20.62	3.28	-.004
WHITE	0=non-white; 1=white	.79	.41	-.027
FIRSTYR	0=other; 1=first year student	.23	.42	.059
SOPH	0=other; 1=sophomore	.30	.46	-.041
JUNIOR	0=other; 1=junior	.29	.46	.023
SENIOR	0=other; 1=senior	.17	.38	-.001
CRCJ	CRCJ major/minor (0=no; 1=yes)	.27	.44	.185**

***p<.001
**p<.01
*p<.05

The frequency distribution for each of the three credibility measures (NETCRED, LOCALCRED, NATLCRED) is displayed in Table 3. Although the variables are measured continuously from 0-10, they are displayed in this table as categorical variables for the ease of display. As shown, almost 15% of the respondents rate the credibility of the Internet as 0-3 (low), 40% rate it as 4-6 (medium), and 45.1% rate it as 7-10 (high). Respondents appear to place more credibility in local news, with 6.8% having an average score 0-3 (low), 29.3% having an average score of 4-6 (medium), and 64% reporting an average score of 7-10 (high). The credibility ranking for national news is slightly higher, with 6.3% reporting an average score of 0-3 (low), 19.9% reporting an average score of 4-6 (medium), and almost 74% reporting an average score of 7-10 (high).

Table 4 contains the means and standard deviations for each variable and the correlation of that variable with the punitive index. Many of the variables are significantly correlated with punitiveness, and are consistent with the findings of previous research on punitive attitudes. Both religious fundamentalism and religious affiliation are significant predictors of punitive attitudes. Political ideology is also significantly correlated, with conservatives being more punitive. Respondents with higher scores of racial prejudice are more punitive as well. CRCJ majors are also more punitive. None of the demographic variables (home state, sex, age, classification) are significantly correlated with punitiveness. Some of the crime salience measures are significantly correlated with punitive attitudes, in particular, concern about crime, fear of violent crime, and fear of property crime are positively related to punitiveness. However, other crime salience variables were not significantly correlated with the dependent variable—the perception that crime has increased and both measures of crime victimization experience are not significantly correlated with punitive attitudes. This is not surprising given the inconsistent findings in the literature regarding victimization experience. Contrary to expectations, none of the Internet variables were significantly associated with punitiveness, although several other media variables were significantly correlated with punitiveness. In particular, respondents who report national TV news as their primary news source are more punitive, whereas those with a different primary news source are less punitive. Respondents who watch local TV news more frequently and who read local newspapers more frequently are more punitive suggesting the importance of the local context of news. With respect to credibility, those who view local news sources as more credible and national news sources as more credible were more punitive. Respondents rated national news sources as more credible, on average, than either local news sources or the Internet, with a mean of 7.11 for national news, 6.58 for local news, and 5.96 for the Internet.

The full theoretical regression model and the best fit regression model, without consideration for any of the media variables, are displayed in Table 5.[12] There are four

Table 5. *Unstandardized OLS Regression Coefficients of Punitive Attitudes Control Variables Only (standard errors in parentheses)*

Variable	Full Model	Best Fit Model
VICTVIOL	-2.28	
	(4.17)	
VICTPROP	-6.23*	-5.41*
	(3.01)	(2.59)
CONCERN	0.39	
	(0.80)	
FEARVIOL	0.45**	0.54***
	(0.17)	(0.09)
FEARPROP	0.14	
	(0.22)	
CRINC	-1.57	
	(3.96)	
RELFUND	3.98	
	(3.44)	
RELIGION	3.36	
	(3.16)	
POLITICAL	-2.74**	-3.29***
	(1.03)	(0.83)
PREJUDICE	0.30	
	(0.22)	
SOUTH	-3.26	
	(6.42)	
SEX	-5.40	-7.48**
	(3.35)	(2.89)
AGE	0.45	
	(0.48)	
WHITE	-0.59	
	(3.77)	
CRCJ	8.31*	7.56**
	(3.29)	(2.85)
FIRSTYR	-0.64	
	(5.05)	
SOPHOMORE	-3.28	
	(4.48)	
JUNIOR	5.01	
	(4.39)	
adj R^2	.198	.183

***p< or =.001
**p< or =.01
*p< or =.05

significant predictors of punitiveness in the full model: (1) property victimization experience, (2) fear of violent crime, (3) political ideology, and (4) being a CRCJ major or minor. Similarly, those same four variables along with sex are significant predictors of punitiveness in the best fit

model. Most of these variables are significant in a way that is consistent with previous research, although the findings concerning crime victimization are more difficult to assess. More specifically, respondents with property victimization experience are significantly less punitive. Given that property victimization is often unreported and relatively less serious, it is perhaps not surprising that property victims are less punitive. Given the inconsistent findings in the literature concerning crime victimization and punitive orientations, it is clear that this is an area worthy of additional exploration. Women, and those with a more liberal political ideology, are also less punitive. Those with a higher fear of violent crime are more punitive. The CRCJ majors and minors are more punitive as well and understanding why this is the case should be the focus of future research.

Table 6. *Unstandardized OLS Regression Coefficients of Punitive Attitudes (standard Errors in parentheses) with Primary News Source Variables*

Variable	Model 1	Model 2
VICTPROP	-6.05*	-5.66
	(2.90)	(2.92)
FEARVIOL	0.51***	0.51***
	(0.10)	(0.10)
POLITICAL	-2.22*	-2.30*
	(0.93)	(0.93)
SEX	-8.91**	-9.67**
	(3.13)	(3.15)
CRCJ	7.17*	7.12*
	(3.32)	(3.32)
LOCALTV	-0.64	-3.16
	(3.42)	(3.61)
NATLTV	5.97	4.52
	(3.62)	(3.66)
LOCPAPER	-4.00	-5.54
	(4.63)	(4.75)
NATLPAP	-4.12	-3.34
	(14.98)	(15.12)
OTHNEWS	-12.37^	-12.94
	(7.43)	(7.45)
NETCRED		-1.29
		(0.77)^
LOCALCRED		-0.71
		(1.17)
NATLCRED		1.59
		(0.98)
adj R^2	.180	.186

***p< or =.001
**p< or =. 01
*p< or =.05

The models in Table 6 assess the impact of the various media variables on punitiveness while retaining control variables from the best fit model. Model 1 includes the primary news source variables and model 2 includes those variables plus the measures of media credibility. None of the primary news source variables (i.e., news salience) significantly impacted levels of punitiveness in relation to the Internet as a news source, and perceptions of credibility were also not significant predictors.

The regression models reported in Table 7 examine the frequency of media use variables in model 1 and the frequency and credibility variables together in model 2. One of the media frequency variables, times that respondents watch local TV news in a typical week, was a significant predictor of punitiveness, such that punitiveness increased as the number of times watching local TV news increased. This variable remains significant when the credibility variables are added to the model (model 2), but none of the credibility measures are significant predictors of punitiveness. In all six models reported, the adjusted r-squared values are modest, yet higher than past research on college students and punitiveness (e.g., see Hensley et al. 2002; Mackey and Courtright 2000; Tsoudis 2000).

Table 7. *Unstandardized OLS Regression Coefficients of Punitive Attitudes (standard errors in parentheses) with Media Frequency Variables*

Variable	Model 1	Model 2
VICTPROP	-5.84*	-5.69*
	(2.77)	(2.77)
FEARVIOL	0.52***	0.52***
	(0.10)	(0.10)
POLITICAL	-2.69**	-2.63**
	(0.91)	(0.91)
SEX	-8.35**	-9.02**
	(3.09)	(3.11)
CRCJ	8.53**	8.12**
	(3.07)	(3.07)
NEWSNET	0.12	0.53
	(0.68)	(0.71)
OFTENNET	3.03	2.99
	(2.80)	(2.79)
TIMESLOCTV	1.44**	1.34*
	(0.56)	(0.58)
TIMESLOCPAP	0.71	0.56
	(0.64)	(0.64)
NETCRED		-1.03
		(0.74)
LOCALCRED		-1.60
		(1.14)
NATLCRED		1.71
		(0.94)
adj R^2	.220	.228

***p< or =.001
**p< or =.01
*p< or =.05

DISCUSSION AND LIMITATIONS

This study explored the effect of media in multiple news formats (i.e., national and local television, national and local newspapers, and the Internet), the frequency of exposure, and perceived news credibility on punitiveness among 373 college students enrolled in a state university in the Western region of the United States. Among studies examining punitive attitudes, it is rare for researchers to consider the impact of media and media credibility despite clear evidence that media effects are strong predictors of attitudes in the general population. As argued earlier, college students are a salient population for an examination of the impact of Internet news and its perceived credibility on punitive attitudes given that they are more likely than other groups to use the Internet and access news there (e.g., see ECAR 2009; NITA 2004; Rainie 2010; Robinson et al. 2003).

Among this college student sample it appears that punitiveness does not vary by the primary source of news, suggesting that news source salience is not an important predictor. Alternatively, considering the work of Chiricos and colleagues (1997; 2000), the *frequency of exposure* to specific sources of crime news is an important predictor of public attitudes about crime. To this end, the frequency of using the Internet as a news source, of watching local TV news, and of reading the local newspaper were examined in relation to punitive attitudes. The only frequency variable that was significant was the frequency of watching local TV news. This is consistent with previous research which has shown that local TV news has more impact on attitudes regarding crime than other media sources (e.g., see Chiricos et al. 2000; Gilliam and Iyengar 2000; Pfeiffer et al. 2005). One explanation for this finding is the freedom consumers can exercise while reading papers or skimming stories online, as they can avoid crime news while they are less able to choose what they are exposed to when they tune in to local television. Another explanation is that consumers of news may select the type of news source that provides them with information and/or imagery that reinforces their worldview (i.e., punitive-oriented people watch more local TV news).

Diverging from stated expectations, the media credibility variables were not statistically significant in any of the models. The relative lack of importance of the media credibility may suggest that college students are more immune to media factors than are the general public, although this study (and our sample) does not allow us to test this point of conjecture. Indeed, as argued by Heath and Gilbert (1996) the impact of how the media portrays crime is often dependent on characteristics of the audience receiving the information. It is interesting that national news sources were rated as highly credible while the Internet was rated as the least credible source of news even though it was the most reported news source (see Table 4). This suggests that students may favor convenience over credibility in terms of accessing the news.

Contrary to suppositions articulated earlier, it appears that the role of the Internet on punitive orientations is not important regardless of how media was examined (primary use, frequency, or credibility). It is possible that this null finding can be attributed to how the Internet was operationalized in this study. Although commonplace in previous research (e.g., see Weitzer and Kubrin 2004), the Internet measure employed in this study was an aggregate indicator that did not allow for differentiation between types of Internet news people were accessing. For example, it is possible that the sources of Internet news accessed were from national or local sources that also happen to post their news stories online. If this was the case, then one would not expect major differences between Internet news versus the other mediums. Conversely, if the type of online news being accessed was from more sensationalistic sources like blogs, politically affiliated Internet "news" sources, then differences in punitiveness might be observed. Improved measures of Internet usage for news and even social purposes may assist researchers to better understand the potential influence of the Internet on attitudes about crime.

Our results also indicate that students majoring or minoring in criminology and criminal justice tend to hold more punitive orientations than students pursuing other areas of study. This is consistent with published literature (e.g., see Austin and O'Neill 1985; Lambert 2004; Mackey and Courtright 2000; Merlo 1980). However, it is still unclear as to why this is the case. Understanding this trend in relation to media influences and other factors such as institutional, programmatic, instructor, and student characteristics should be considered as possible explanations. In particular, it is important to understand whether the higher levels of punitiveness among these students are related to elements of their CRCJ education or whether they exist prior to their choice to major in CRCJ. This is a salient issue for future research given that many of these students will go on to occupations within the criminal justice system and or be in a position to influence criminal justice practice, and in some cases, criminal justice policies.

The current study relies on a non-random sample of students from one university. Thus, the results cannot be generalized to the public or to other college students, as this sample of college students might differ from students at other universities. In addition, this particular sample over-represents females and minorities (who tend to be less punitive) and criminology and criminal justice majors (who tend to be more punitive), limiting our ability to make generalizations. Even so, knowledge can still be acquired from a limited sample and it is not uncommon in criminology and criminal justice to see published research on punitive orientations based on non-random samples of college students (e.g., see Austin and O'Neill 1985;

Benekos, Merlo, Cook and Bagley 2002; Farnworth et al. 1998; Giacopassi and Blankenship 1991; Hensley, Miller, Tewksbury and Kockeski 2002; Lambert 2004; Lambert, Hall, Clarke, Ventura and Elechi 2005; Lane 1997; Mackey and Courtright 2000; Mackey, Courtright and Packard 2006; McCarthy and McCarthy 1981; Merlo 1980; Payne, Time and Gainey 2006; Tsoudis 2000). Future research should examine students at multiple campuses (using random samples when possible) to ascertain what differences, if any, might be seen across samples of students at different universities. Universities located in different regions of the country may have student populations that are more or less punitive given differences in news media preferences and frequency of exposure, local culture, social norms, student characteristics, and institutional differences. Only through comparative analysis can we ascertain whether or not this is the case.

CONCLUSION

This research makes three important contributions to the punitive attitudes literature and communications research. First, it is one of few studies that explore the effect of media on punitive attitudes among college students. Second, it is the only study (of which we are aware) that examines the Internet as a form of news media and its potential impact on student punitiveness. Furthermore, it is the first study to consider perceptions of media credibility on punitiveness among students or the general population. Although the Internet variables and all indicators of credibility (i.e., medium credibility) were never significant predictors of punitiveness, it is still prudent for subsequent research to consider improved measures of Internet news and additional dimensions of credibility (i.e., source credibility) in studies involving college students and the general public. Developing a better understanding of public perceptions of credibility and how the content of media messages is accessed and processed is important for the study of punitive attitudes. As argued by Smith (1984:292), the influence of news "depends as much on the context to which it is received as on the circumstances from which it was issued."

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Endnotes

[1] Some get tough policy advocates have noted that more punitive correctional policies are the reason for the declining crime rate because of incapacitative correctional practices (Levitt 1998).

[2] Fifty-two percent of the campus population is female and 48% is male. The sample over-represents females.

[3] Females and minorities are overrepresented in this sample. Given that females and minorities are generally less punitive than whites and males, we could be underestimating punitive attitudes.

[4] In terms of the total student population, CRCJ students are overrepresented since they constitute less than 2 percent of the students on this campus. Yet, it is important to explore the views of criminology and criminal justice majors/minors since they have more interest in crime related topics and thus may be differentially influenced by media coverage on crime. In addition, in some studies it has been suggested that they are more punitive than other majors (Mackey and Courtright 2000; Lambert 2004) and are more punitive compared to other majors in this sample.

[5] Given that we are examining a sample of young adults it should not be surprising to see this amount of self-reported victimization as data from the National Crime Victimization Survey indicates that younger individuals are at higher risk for criminal victimization, particularly violent victimization (Turner and Rand 2010).

[6] Some of these policies are no longer in practice (i.e., death penalty for juvenile offenders) or are not practiced in all jurisdictions (i.e., chain gangs). The punitive attitudes literature not only focuses on how individuals view current punishment policies but is also interested in understanding how much support more punitive policies may garner in the public. In addition, many of these policies may or may not be consistently highlighted in the media; however, the focus of this paper is to explore how crime news *sources* and the frequency with which one is exposed to that source may influence punitiveness (and not the content). A content analysis of news coverage that specific respondents were exposed to would be a worthwhile endeavor for future research.

[7] The internet news variable does not differentiate between types of Internet news (i.e., online newspaper, online local TV news stations, etc.) utilized by Internet users. Given the relatively unexplored impact of the Internet, it is important to see if it has impact as an aggregate measure. Future studies should explore how disaggregated aspects of Internet news usage may impact punitive attitudes. In the limited studies on the Internet and crime, most do not disaggregate forms of Internet news usage (e.g., see Weitzer and Kubrin 2004).

[8] This variable did not differentiate network national news from cable news channels. In past research, national news

has not been differentiated in this way although it may be prudent to do so in future studies.

[9] These items have been used in previous research (e.g., see Chiricos et al. 2004).

[10] It should be noted that the Western university does not have an official CRCJ major but rather Sociology major/minor with a concentration in criminology and criminal justice. These students were specifically asked if they had a declared CRCJ concentration in Sociology to allow us to separate out Sociology majors without the CRCJ concentration. CRCJ concentrators constitute well over 70% of Sociology majors at this university.

[11] The quantity of national TV news and newspaper exposure was not examined since they were not measured in the survey.

[12] All regression assumptions were tested in all models. Each assumption was met. Hence, there were no issues with heteroscedasticity, multicollinearity, interactions, or outliers within any of the models.

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Examining the Intersection of Self-control, Peer Association and Neutralization in Explaining Digital Piracy

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Abstract: *Digital piracy is becoming a common criminal behavior. However, criminologists do not have a firm understanding of how self-control, peer association, and neutralization come together to explain digital piracy. Using data from college students' responses to hypothetical scenarios, the present study determines if self-control, peer association, and neutralization interact to provide an explanation of the digital piracy in a manner that was previously unexplored. The findings from this study indicated that each type of measure individually provides an explanation of digital piracy, but also that peer association and neutralization interact together to explain the behavior. This contribution to the literature by validating the past hypothesis that neutralization does have a positive link to the commencement of digital piracy.*

Keywords: digital piracy, computer crime, neutralization, self-control

INTRODUCTION

Adler and Adler (2006) argued that the dramatic growth of the Internet has provided a haven for deviance and crime. For instance, individuals are able to find, copy, and use intellectual property without providing payment (i.e., pirate intellectual property). One form of intellectual property piracy that is occurring more frequently is digital piracy. Digital piracy is defined as the illegal act of copying digital goods, software, digital documents, digital audio (including music and voice), and digital video

without explicit permission from and compensation to the copyright holder (Gopal et al. 2004; Higgins, Fell, and Wilson, 2006). We point out that digital piracy has been used in several ways. Some have focused on specific form of digital piracy (Gopal et al., 2004; Higgins, 2005), and others have used multiple forms of digital piracy (Higgins et al., 2006) under this definition. Thus, this definition of digital piracy is a broad and usable definition of the behavior. The easy accessibility of the Internet has facilitated an increase in digital piracy in recent years. Wall (2005) argued that the Internet enables individuals to commit criminal activity easily for four reasons: it allows anonymous communication; it is transnational; it has created a shift in thinking from the ownership of physical property to the ownership of ideas; and it is relatively easy. Additionally, Wall (2005) contends that the Internet facilitates piracy because it allows the offense to take place away from the copyright holder; it provides the offender with the perception that the act is victimless. However, this behavior is not victimless.

In the United States, intellectual property that includes digital media is protected by copyright laws. The illegal copying and distribution of copyrighted materials over the Internet was made a felony offense by The No Electronic Theft Act (17 U.S.C. §§ 506 & 507) (see Im and Koen 1990 for the complete details of this legislation). These pieces of legislation are instrumental in making digital piracy a crime.

Multiple studies have investigated predictors and preventative behaviors of piracy (Chiang and Assane 2002; Cronan and Al-Rafee 2008; Ramikrishna, Kini, and Vijayaraman 2001). For example, Liao, Lin, and Lin (2009) found that perceived prosecution risk and behavior control affected the user's intention to participate in digital piracy. However, some researchers have used criminological theories (i.e., neutralization, differential association and self-control) to gain an understanding of digital piracy (Higgins, Wolfe, and Marcum 2008; Hinduja 2007; Ingram and Hinduja 2008; Morris and Higgins 2009). These studies do not provide an understanding of how these three theories come together to explain digital piracy. Therefore, a gap is left in understanding the link between self-control and digital piracy in the literature, as well as other potential theoretical explanations of digital piracy.

The purpose of the present study is to gain a better understanding of the choice to participate in digital piracy by examining how neutralization, differential association, and self-control theory work together. Thus, the present study is important because it will assist in providing a unique understanding of digital piracy. To be clear, it will illuminate the different meanings of the connections between these three theories that have not been previously examined. The following text will provide a brief overview of the three theories utilized in this study

NEUTRALIZATION THEORY

While some may not view digital piracy as a crime, it is illegal. One theoretical basis may provide some information concerning individual's perceptions of digital piracy -- neutralization theory. Sykes and Matza (1957) addressed the rationale as to why individuals' would seemingly shirk the idea of social constraints so that they may be able to commit deviant or criminal behavior. To be clear, the legal, moral, and ethical issues are not completely disavowed, but the individuals shortly relieves themselves from these dictates so that they may feel released to perform the behavior of interest. This means that the individual may use verbal or cognitive cues to convince himself or herself of the acceptability or the properness of the behavior regardless of society's view of the behavior. When this process takes place, the individual is then free to perform the behavior without acquiring a permanent deviant or criminal persona or identity. The persona or identity is not acquired because the individual has adequately neutralized the feelings of the dominant society toward the behavior. In short, because of neutralization, the typical social controls that inhibit deviant and criminal behavior are inoperable, and this allows the individual to feel free to violate the conventions of society (Sykes and Matza 1957). The neutralization process takes place using five main techniques.

The main techniques that are important in the neutralization process are as follows:

- Denial of responsibility (i.e., it is not my fault)
- Denial of injury (i.e., no harm resulted from my actions)
- Denial of victim (i.e., nobody got hurt)
- Condemning the condemners (i.e., how dare they judge me, when they are just as criminal or hypocritical)
- Appeal to a higher a loyalty (i.e., there is a greater or higher cause).

These techniques provide individuals with the information and the thought process necessary to garner freedom from conventional social constraints so that criminal and deviant activity may take place (Sykes and Matza 1957).

Overall, the support for neutralization theory is mixed (see Maruna and Copes 2005 for a meta-analysis of previous studies); however, the theory does have merit when explaining criminality. For example, Goode and Cruise (2006) used responses from 28 individuals to examine the role of neutralization and cracking (i.e., the illegal disabling parts of software that are undesirable to the user). The results of this indicate that crackers have different mean levels of the neutralization techniques. In fact, Hinduja (2007) used a sample of university students in the United States to show that neutralization was weakly

related to digital piracy. Hinduja (2007) argued that other measures were more salient and supported the view that neutralization had a weak link with crime, but was specific to digital piracy. The weak and mixed results indicate that additional studies are needed, and that these studies may need to take place in the area of digital piracy. Ingram and Hinduja (2008) used data from 2,032 college students to show that acceptance of the techniques that were associated with the denial of responsibility, denial of injury and victim, and the appeal to higher loyalties. Without directly testing group issues, they further suggested that their results showed that students are more concerned with group norms rather than legal norms or harm to others. Morris and Higgins (2009) used data from 585 college students attending multiple universities to show that neutralization has a small effect on digital piracy when controlling for other theoretical measures that include self-control and differential association. While the central parts of neutralization theory have been under scrutiny by researchers (Goode and Cruise 2006; Hinduja 2007; Ingram and Hinduja 2008; Morris and Higgins 2009), with respect to digital piracy, these authors have not delineated why neutralization may have a connection with other theoretical measures in the same behavioral context--piracy.

These above-mentioned studies do not address the interaction between neutralization and other theoretically relevant measures to explain digital piracy. Maruna and Copes (2005) assert that different types of people neutralize behaviors differently. It is possible that various learned behaviors and different levels of self-control could have an effect on the neutralization process. The present study assumes that the techniques of neutralization will interact with other measures that may explain digital piracy.

DIFFERENTIAL ASSOCIATION THEORY

Sutherland (1947) argued that criminal behavior is learned through interaction and exposure to differential associations with individuals from a primary intimate group. Criminal behavior is learned through these associations. With regard to piracy, the actual learning that takes place is not only the mechanical techniques (i.e., how to illegally download music, software, or movies) of a crime, but also the internal techniques (i.e., the motives, drives, and rationales) that allow the individual to use the mechanical techniques. Crime is the result of an overwhelming excess of definitions (i.e., attitudes) that are favorable to performing the criminal behavior.

In Sutherland's version of differential association, important pieces that need to be considered are the frequency, duration, priority and the intensity of the associations. Akers (1998) argued that associations that are exposed first (priority), more frequently and for a longer time (duration), and with greater intensity (importance) will have the greatest impact on the individual. Intimate groups are typically comprised of family and friends. Due to the priority, duration, and importance, these groups tend to have the greatest impact on the individual.

Definitions are also important for association theory. Definitions refer to an individual's attitudes toward a specific behavior including techniques, rationalizations, motivations, and drives (Sutherland 1947; Akers 1998). For Akers (1998), the definitions for criminal and deviant behavior do not require a total rejection of conforming values, and deviant definitions do not involve a complete set of counterculture values that motivate crime and deviant behavior. As Akers (1998: p. 37) put it, "[t]hey [referring to Sykes and Matza, 1957] left no doubt that techniques of neutralization are intended to be types of 'definitions favorable' to crime that were left unspecified in Sutherland's theory." Sykes and Matza (1957) argued that their theory was an extension and modification of differential association theory. This perspective is important because it addresses the issue of why some people violate the norms that that they endorse.

Differential association has been applied to digital piracy. Specifically, researchers have shown that peer association has a link with software piracy, music piracy, and movie piracy (Higgins and Makin 2004; Higgins 2005; Higgins, Fell, and Wilson 2006; Hinduja 2007). While these studies are instructive, the studies do not take into account the possible connection that may exist with neutralization and digital piracy (Morris and Higgins, 2009) and that peer association alone may not provide the stimulus to engage in digital piracy. However, an abundance of peer associations that are linked to digital piracy may be energized in combination with the different neutralization measures. The present study assumes that peer association will have a positive influence on digital piracy. This influence will be exacerbated by or interact with, techniques of neutralization. If this is positive, then we will have supported Akers's (1998) view of the interplay between differential association and definitions.

SELF-CONTROL THEORY

Gottfredson and Hirschi's (1990) version of self-control theory provides an important view of crime and deviance. They emphasize that the stable individual difference of low self-control provides a causal structure underlying deviance. In order to explain the stability of crime over time and the lack of specialization of crime, Gottfredson and Hirschi (1990) argued that crime is the result of low self-control. They argued that self-control was, "the tendency to avoid acts whose long-term costs exceed their momentary advantages" (Hirschi & Gottfredson 1994:3). Individuals with low self-control were characterized as: risk-taking, impulsive, lacking empathy, preferring simple and easy tasks, and preferring

physical tasks. These characteristics inhibit an individual's ability to accurately calculate the consequences of deviance. In this form, low self-control explains all forms of crime--acts of force or fraud that individuals' pursue in their own interest--and analogous acts. Further, low self-control originates in early socialization when parents are ineffective or inconsistent in their application of the parenting tasks. Therefore, neglecting, uncaring, and single parents are likely to fail to socialize their child to properly delay gratification, care about the feelings and desires of others, and properly control their impulses.

While under scrutiny from several researchers, Gottfredson and Hirschi's theory has generated a moderate amount of empirical support for criminal and deviant behaviors (Pratt & Cullen 2000). Nevertheless, while several studies have examined the effects of self-control on crime and deviance, one issue has consistently arisen in the literature. Researchers should be clear about how the measurement of self-control can influence the interpretation of the link between self-control and crime. For instance, as in the tradition of Grasmick et al. (1993), when researchers treat self-control as a personality trait, they are focusing on the characteristics that Gottfredson and Hirschi presented to indicate those with low self-control. Focusing on these characteristics does not allow researchers to gain an appreciation of the process of self-control that may be at work during the decision-making process. The characteristics can be applied to digital piracy to help outline this issue. For instance, those with low self-control are not likely to wait to purchase a copy of the digital media, care about the copyright agreement that is attached to the digital media or believe that no one is being harmed. Further, these individuals may be attracted to the thrill, ease and simplicity of performing digital piracy. Those with low self-control whould be likely to perform digital piracy. To date, the empirical research shows some support for this view (Higgins 2005; Higgins, Fell, and Wilson 2006). Therefore, in the present study, it is expected that the personality view of self-control will have a link with digital piracy.

Alternative conceptualizations and measurements of self-control are important to the literature as well. One alternative conceptualization takes the focus away from the characteristics and from viewing self-control as a personality trait or a predisposition for crime. In Hirschi's (2004) view, the personality use of self-control is: 1) a search for the motives of crime and delinquency that are counter to their original theory; 2) a use that shows little value in the explanation of crime; 3) not an explanation of how self-control operates but intimates that an individual will become criminal because they are who they are; and 4) a measure that does not infer more is better. Thus, Hirschi (2004) sees self-control not as a personality trait or predisposition for crime, but self-control is the tendency to consider the full range of potential costs of a particular act. Under this view, self-control is a set of inhibitions that individuals carry with them wherever they go. This removes the focus from long-term costs, and it allows any set of costs to be inhibitors while placing an emphasis on the contemporaneous nature of the inhibitions. In other words, individuals are consistently considering the inhibitions for a behavior while in a situation. Thus, crime and delinquent acts are self-perpetuating, but they are possible due to the absence of an enduring tendency to avoid them (i.e., the inability to see the full range of the inhibitions).

Typical inhibitions that an individual considers are consonant with the bonds from social control theory (i.e., commitment, involvement, belief, and attachment) and provide a target for dishonor if a transgression is perpetrated. Because an individual becomes criminal or delinquent when they feel relatively free from intimate attachments, aspirations and moral beliefs, a noncriminal or non-deviant individual is exercising self-control by recognizing and adhering to inhibitions so they do not dishonor those that are admired. Therefore, self-control is akin to a self-imposed physical restraint on behavior.

Hirschi (2004) tested this view by using data from the Richmond Youth Survey. To capture the new conceptualization, he used nine items that capture a variety of social bonds (i.e., attachment, commitment, and belief).[1] He shows that his conceptualization of self-control has a negative link with delinquency. This is supportive of the re-conceptualization of self-control, which states that individuals add up the negative costs of an act and behave in accord. The important issue with this study was Hirschi's (2004) measures. His use of nine items that reflect social bonds is consistent with his view that self-control and social control are one in the same.

Piquero and Bouffard (2007) used data from college students to examine the re-conceputalization of self-control. They interpreted Hirschi (2004) to be more from the rational choice tradition rather than the social bonding tradition. Their approach to operationalizing self-control was to ask students to provide a list of seven "bad things" that could possibly occur involving drunk driving and sexual aggression, and the percentage of the likelihood of these "bad things" occurring. The product of these responses was added together and higher scores on the measure indicated more inhibitions. Piquero and Bouffard (2007) also included the developed by Grasmick et al. (1993). In comparison, the "bad things" measure of self-control has a stronger link with drunk driving and sexual aggression than the Grasmick et al. scale.

These two studies show that Hirschi's (2004) conceptualization of self-control may have importance for criminology. This view can be applied to digital piracy. Individuals are likely to perform digital piracy when they feel relatively free of their attachments, their aspirations, and moral beliefs. When individuals feel that they are anonymously using the Internet and they are not likely to

be detected performing digital piracy by someone that they admire or that digital piracy is not immoral, they are likely to perform the behavior. Moreover, some may aspire to perform digital piracy because obtaining the digital media may provide a source of relaxation that is desirable. Thus, there is not any self-restraint from performing digital piracy.

A more recent study performed by Higgins, Wolfe and Marcum (2008) examined the connection between three different measures of self-control and digital piracy, including Piquero and Bouffard's (2007) self-generated inhibitions measure. Through the analysis of data obtained through survey to college-level students, Higgins et al. (2008) found that level of self-control does in fact affect the likelihood of commission of digital piracy. This supported past research, as Higgins (2005) and Higgins et al. (2006) also showed that self-control had a link with digital piracy. Therefore, the present study hypothesizes that the way Piquero and Bouffard (2007) uses inhibitions and Hirschi (2004) uses social bonds to capture self-control will have negative links with digital piracy.

While these studies are instructive, these studies do not take into account the connection between self-control and neutralization to explain digital piracy. The findings of the present study could validate the results of Higgins et al. (2008), but also add to the literature by including the examination of neutralization. These studies do not provide an understanding of how neutralization may moderate the link that self-control has with digital piracy.

Hirschi's (2004) reconceptualization of self-control theory has importance for the use of neutralization. That is, Hirschi's (2004) bringing self-control back to a sense of social control lays the foundation for integration. In Hirschi's (1969, 2002) social control theory, he argued that individuals free from attachments, aspirations, and moral beliefs are more likely to be criminal or delinquent. To clarify, Hirschi used the techniques of neutralization as the conceptualization and operationalization of his beliefs concept. He used this to explain how an individual may believe that an action is morally wrong and still commit it. Hirschi argued that an individual might perform an immoral action and endorse the techniques of neutralization because their beliefs in the conventional behavior are so weakly held. Since self-control is an individual propensity that is developed early in life that is essentially social control, neutralization may be an exacerbating set of measures that can provide an understanding of digital piracy. If this is the case, than the self-control and neutralization come from similar conceptual pools. Further, positive results would suggest that Hirschi is correct that self-control and social control is the same thing, especially if neutralizations are part of the belief component of control theory. Thus, a gap in the digital piracy literature exists in the area that may be explained by this combination of measures.

THE PRESENT STUDY

Recognizing that neutralization may have a link with different forms of other theoretical measures, the present study examines the additive and the moderating link that neutralization has with digital piracy, self-control, and peer association. Linking neutralizations and self-control to explain criminal behavior has been utilized multiple times in the past. However, this study will contribute to the literature by examining the potential interaction effects between the three measures, especially the changes in the levels self-control.

This effort represents the first systematic study that examines the additive and moderating role of neutralization. Regarding the study of digital piracy, this is the first systematic study to our knowledge that examines the link between neutralization as an additive and moderating measure to understand digital piracy. Concerning the study of peer association, the present study represents the first effort to understand the moderating role that neutralization has to understand digital piracy. Further, this study is the first to examine the moderating link that neutralization has with self-control to understand digital piracy.

METHODS

Procedures and Sampling

This study used a self-report questionnaire administered to college students at three universities in the southeastern United States. Upon Institutional Review Board and Human Subject Protection review, data were collected during the 2006 fall semester. The survey was handed out to required general education courses open to all majors and courses only open to justice administration majors (dependent upon the availability at each institution). Professors of the surveyed classes had given prior permission for the study to take place during class. Students present in class on the day that the questionnaire was administered took part in the study. A cover letter explained the purpose of the study, the voluntary nature of the study, and that responses would be completely anonymous and confidential. The researchers also verbally stressed these rights to the students as the survey was being handed out. Following these procedures, approximately 358 surveys were collected as part of the sample with 10 individuals refusing to participate.

Some may criticize the use of a college student sample because of its lack of generalizability. Self-control theory is a general theory that has been thought to explain all crime all of the time, no matter the sample. Consequently, issues of generalizability are minimized in the present study (Love 2006). Further, Payne and Chappell (2008) reviewed a number of studies using college student

samples and concluded that criminologists have learned, or confirmed, a great deal from using students as research samples. This suggests that the generalizability to other samples outside of college students may be limited, but the use of college student samples does not limit the potential of what may be learned.

The research also shows that college students, as a group, are the most likely to engage in digital piracy (Higgins et al. 2006; Hinduja 2003; Hollinger 1988; Husted 2000). College students have regular access to computers, yet are less controlled by vigorous rule enforcement on campuses (Hinduja 2003). Additionally, college students are more likely to engage in digital piracy due to insufficient financial funds to acquire digital media through legitimate means. Therefore, the current study has sampled those individuals most likely to engage in digital piracy: college students.

Measures

Dependent Measure. Consistent with previous research utilizing self-control measures (Higgins et al. 2006; Piquero and Bouffard 2007; Piquero & Tibbetts 1996), the dependent measure in the present study was the response to a hypothetical scenario. A pilot study was used to obtain the scenario. Thirty students, in a liberal arts course open to all students at the university (who did not take part in the final study) were asked to write three realistic scenarios about downloading a CD from the Internet. This resulted in 80 scenarios. After the lead author reviewed the scenarios, two other faculty members, not involved with this study, reviewed the scenarios reducing the number to 10 scenarios. Twenty students, in a different liberal arts course open to all students at the university, were asked rate each scenario to determine how realistic nature using a scale that was anchored as not realistic 0 to completely realistic 100. The scenario that was used in this research was rated an average of 97 percent realistic across the twenty students (see Appendix A for the scenario).

The scenario is:

"A popular CD has just been released to music stores nationwide. All of your friends have heard the CD and told you that it is great and that you have to get it! Unfortunately, every time that you try to go to get the CD, you cannot because it is always sold out. However, a friend tells you about an on-line web-site that has posted an underground copy of the entire CD. The site will only allow visitors to download the CD, before the visitors can listen to it. You really want to the CD, but there is a 100 percent chance of getting caught. However, there is a 50 percent chance of downloading a virus when the CD is downloaded and there is a 100 chance that the music quality will be low." I would perform this behavior…

Respondents marked their level of likelihood to perform the behavior on an 11-point scale that ranged from *not likely* (0) to *100% intention* (10). The scores ranged from 0 to 10. An individual's intention of performing the act was indicated by higher scores reflecting greater intentions.

Self-Generated Inhibitions. Some researchers have contended that the used of hypothetical scenarios may not accurately reflect a person's real-world decision-making process, as they are artificially articulated by the researcher (Bouffard 2002). In particular, Bouffard (2002) argues that the use of hypothetical scenarios may lead to priming of the respondents' answers and create methodological problems. To remedy these problems, Piquero and Bouffard (2007) suggest the use of subject-generated consequences to measure self-control. The present study has utilized this contemporary view of self-control using this methodology by presenting respondents with a table in order for them to develop their own measures of deterrence.

For the scenario (going to the underground web site to download the CD respondents were asked to list five "bad things" that might occur if one were to engage in the act and, then on the corresponding side of the table, to indicate the importance (0%-100%) of each of the "bad things" when they make the decision to perform the act. Piquero and Bouffard (2007) argued that those with longer lists the inhibitions, or potential costs, are more salient (i.e., consistent with Hirschi's 2004 re-conceptualization), whereas those with low self-control ignore the costs of the behavior which is consistent with Gottfredson and Hirschi's (1990) contention. Further, this method allows researchers to collect inhibition information from the scenarios without priming the individual or limiting their responses to items that had been preselected for them. The respondents' self-generated responses were used to gauge the individual's level of self-control. According to Piquero and Bouffard (2007), the use of self-generated responses will better capture an individual's true inhibitions and more accurately capture self-control. Factor analysis using a Varimax rotation and Scree test indicated that these inhibitions formed a uni-dimensional measure with adequate levels of internal consistency (.70)

Associating with Peers. While Hirschi (2004) argued that associating with delinquent or criminal peers is a form of inhibitions, the present study uses the measure to account for differential association in the context of Akers's (1998) theory. Consistent with previous research (Higgins et al. 2006), the present study used six items to capture the students perceptions of the number of male and female friends that download music (see Appendix A for specific items). The students responded using the answer choices (1 = none, 2 = 1-2, 3 = 3-4, 4 = 5 or more). The scores ranged from 5 to 24. Factor analysis using a varimax rotation and a scree test shows that the scale was uni-dimensional. Cronbach's alpha analysis indicates that the scale is internally consistent (.95).

***Techniques of Neutralization*.** To maintain the crime free image, individuals invoke several different techniques to neutralize their behavior. The original theory of neutralization was developed to explain juvenile delinquency, so our measures of neutralization were operationalized to capture the same general concepts put forth by Sykes and Matza (1957) and used by Piquero, Tibbetts, and Blankenship (2005). To that end, 4 items were used to capture neutralization. All of the response categories for each of the items ranged from 1 (strongly disagree) to 4 (strongly agree). Higher scores on the items indicated stronger levels of neutralization and should be related to higher intention levels of digital piracy.

The techniques of neutralization used in the survey are: "the entertainment industry exaggerates the impact of not paying for downloading music from internet", "profit is emphasized above everything else in the entertainment industry", "the government overly regulates downloading music", and "it is ok to download music without paying for it because CDs nowadays don't have good songs" (see Appendix A for the specific items).

Control measures. The respondents were asked their age (an open-ended question), sex (1= male, 0= female), and race (0= non-white, 1= white).

RESULTS

Table 1 presents the means, standard deviations, and bivariate correlations for the variables in the present study. Forty percent (40%) of the respondents indicated they were likely to download the music as described in the scenario. Diagnostics of this measure did not indicate an overly skewed or kurtotic distribution of this measure. The average student downloaded nearly 2 times in the past two weeks. The average score of the Piquero and Bouffard (2007) measure indicated low levels of self-control. These findings indicate some disjuncture in the self-control measures. Neutralization measures indicated that the students did not neutralize digital piracy. The students averaged moderate levels of association with downloading peers (14.98 of a possible 24). The majority of the respondents were female, and the average age was around 21 years old.

The bivariate correlations indicate that all of the measures had predicted effects related to intention to download a CD. All of the neutralization measures had a correlation with the intention to download a CD in the predicted direction. For instance, the industry exaggerates the impact (r=0.17), profit is emphasized (r=0.15), government overly regulates the industry (r=0.17), ok to download (r=0.34). This finding is consistent with the research on neutralization (Piquero et al. 2005; Hinduja 2006). Peer association had a correlation with intention to download a CD (r=0.34) that is consistent with previous research (Higgins 2005). Further, self-control had a negative correlation with intention to download a CD (r=-0.14). Notably, the largest correlation between the measures was .45, indicating the multicollinearity was not a problem with these data, but further tests of multicollinearity were performed in the regression analysis.

Table 2 presents the regression analysis that used intention to download music as the dependent measure. The measures of neutralization, peer association, self-control, and demographics (i.e., sex, age, and race) are used to understand the additive influence on intention to download music.

In Table 2, the results show that "ok to download" (b=1.11, B=0.24), downloading peers (b=0.15, B=0.24), and self-control (b=-0.01, B=-0.12) were significant in understanding intention to download, or willingness to commit the act of digital piracy. Similar to Hinduja (2006), significant neutralization showed that relief from society's values is possible and important in digital piracy. Associating with downloading peers indicated support for Akers's (1998) view that differential association was an important measure in understanding criminal behavior. In this study, the behavior was digital piracy. The results of model 1 indicate support for self-control theory.

Multicollinearity is examined in all of these regression models using the variance inflation factor (VIF). Field (2000) indicated that a VIF below 4.00 indicates that multicollinearity is not present in the data. All of the VIF coefficients across model 1 are below 2, indicating that multicollinearity is not a problem in this model.

Table 3 presents a split regression model that contains the neutralization measures, self-control, peer association, and demographics (sex, age, and race). The regression model was split by disagree and agree for "ok to download". This will allow for a closer inspection of the interaction issues that may be present with this particular measure. For the "disagree" and the "agree" models, the results indicated that peer association (disagree model: [b=0.15, B=0.26], agree model [b=0.13, B=0.23]), in combination neutralization, increased an individual's intentions to download a CD. Importantly, the VIF coefficients indicated that multicollinearity was not a problem in these data because they are all below 2.00.[2]

DISCUSSION

The goal of this study was to provide a better understanding of digital piracy, specifically music piracy. In pursuit of the goal and purpose, the present study hypothesized the following findings: self-control would have a negative link with digital piracy; peer association would have a positive link with digital piracy; techniques of neutralization would have a positive link with digital piracy; and, techniques of neutralization would interact

Table 1. *Bivariate Correlations of Measures (n=300)*

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Intention to Download	4.38	3.72	1.00									
2. Industry Exaggerates Impact	2.56	0.86	0.17**	1.00								
3. Profit Emphasized	3.12	0.76	0.15**	0.45**	1.00							
4. Gov. Overly Regulates	2.39	0.78	0.17**	0.45**	0.18**	1.00						
5. OK to Download	2.27	0.80	0.34**	0.36**	0.17**	0.34**	1.00					
6. Peers	14.98	6.15	0.34**	0.14**	0.16**	0.15**	0.25**	1.00				
7. Self-Control	31.97	43.56	-0.14**	-0.01	-0.15**	0.01	-0.08	-0.07	1.00			
8. Sex	0.40	0.49	0.05	0.04	0.03	-0.00	0.07	0.12*	-0.16**	1.00		
9. Age	21	2.76	-0.13*	0.03	0.02	-0.01	0.01	-0.24**	-0.04	0.04	1.00	
10. Race	0.70	0.46	-0.09	0.11	0.21**	-0.02	-0.02	-0.01	-0.07	0.03	0.06	1.00

* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

Table 2. *Additive Regression Model: Neutralization, Peers, Self-Control, and Demographics (n=300)****

	b	*SE*	*b/SE*	*Beta*	*Tolerance*	*VIF*
1. Industry Exaggerates Impact	*0.12*	*0.29*	*0.43*	*0.03*	*0.62*	*1.60*
2. Profit Emphasized	*0.43*	*0.30*	*1.44*	*0.09*	*0.76*	*1.31*
3. Gov. Overly Regulates	*0.13*	*0.29*	*0.44*	*0.03*	*0.75*	*1.34*
4. OK to Download	*1.11***	*0.28*	*4.04*	*0.24*	*0.77*	*1.29*
5. Peers	*0.15***	*0.03*	*4.34*	*0.24*	*0.86*	*1.17*
R^2	0.20					
6. Self-Control	*-0.01**	*0.00*	*-2.16*	*-0.12*	*0.93*	*1.07*
7. Sex	*0.06*	*0.40*	*0.16*	*0.01*	*0.95*	*1.06*
8. Age	*-0.07*	*0.07*	*-0.93*	*-0.05*	*0.93*	*1.08*
9. Race	*-0.75*	*0.43*	*-1.76*	*-0.09*	*0.94*	*1.06*

** Denotes statistical significance at the .05 level.*
*** Denotes statistical significance at the .01 level.*
***Sample size is reduced due to missing cases.

Table 3. *Split Regression Model: Neutralization, Peers, Self-Control, and Demographics (n=300)****

	Not OK to Download						OK to Download					
	b	*SE*	*b/SE*	*Beta*	*Tolerance*	*VIF*	*b*	*SE*	*b/SE*	*Beta*	*Tolerance*	*VIF*
1. Industry Exaggerates Impact	*-0.11*	*0.36*	*-0.29*	*-0.02*	*0.68*	*1.47*	*0.68*	*0.51*	*1.34*	*0.17*	*0.611.65*	
2. Profit Emphasized	*0.45*	*0.36*	*1.23*	*0.09*	*0.83*	*1.21*	*0.09*	*0.57*	*0.16*	*0.02*	*0.611.63*	
3. Gov. Overly Regulates	*0.33*	*0.41*	*0.81*	*0.06*	*0.74*	*1.35*	*0.07*	*0.41*	*0.16*	*0.02*	*0.851.18*	
4. Peers	*0.15***	*0.04*	*3.72*	*0.26*	*0.89*	*1.13*	*0.13*	*0.06*	*2.20*	*0.23*	*0.851.18*	
R^2	0.16						0.10					
5. Self-Control	*-0.01*	*0.01*	*-1.85*	*-0.13*	*0.90*	*1.12*	*-0.01*	*0.01*	*-0.61*	*-0.06*	*0.941.07*	
6. Sex	*0.26*	*0.51*	*0.51*	*0.04*	*0.93*	*1.08*	*-0.43*	*0.68*	*-0.64*	*-0.07*	*0.911.11*	
7. Age	*-0.17*	*0.09*	*-1.89*	*-0.13*	*0.94*	*1.07*	*0.09*	*0.14*	*0.66*	*0.07*	*0.831.21*	
8. Race	*-0.76*	*0.54*	*-1.40*	*-0.10*	*0.95*	*1.06*	*-0.32*	*0.75*	*-0.43*	*-0.05*	*0.831.20*	

* *Denotes statistical significance at the .05 level.*
** *Denotes statistical significance at the .01 level.*
***Sample size is reduced due to missing case.

with self-control and peer association to explain digital piracy.

The results from the study indicated support for Gottfredson and Hirschi's (1990) and Hirschi's (2004) revised version of self-control theory. That is, the study showed that self-control did have a negative link with digital piracy. The results indicated that individuals who are able to see the consequences of their actions are not as likely to commit digital piracy. This result is consistent with and validates previous research connecting self-control to digital piracy (Higgins et al. 2006; Higgins et al. 2008). While these results were supportive of self-control theory, other theoretical concepts were also supported which reduces the veracity of self-control in understanding digital piracy. This is in reference to Gottfredson and Hirschi's (1990) comments that self-control is the sole individuals propensity to understand criminal behavior. The data in the present study are unable to support this hypothesis. Although this is not supportive of Gottfredson and Hirschi's (1990) view, the result is consistent with other studies (Pratt and Cullen 2000; Higgins et al. 2006). This latter interpretation suggests that the connection between digital piracy and self-control is weak. On one hand, the weak connection may be a product of low public instances of deterrents; thus, the salience of the inhibitions may not be at the forefront of the individual's minds. On the other hand, individuals with self-control deficiencies may perform digital piracy because of they are uninterested in waiting and traveling to the store to purchase the digital media.

The results also indicated that associating with digital pirating peers has a positive influence on digital piracy. These results suggest that the association with digital pirating peers may be part of a group process. To be clear, this does not imply that digital piracy takes place in a physical group. While not addressed in the present study, it is possible that piracy is taking place in a digital form of a group. Furthermore, we believe that it is possible that this result indicates that discussions (i.e., communications) of the activity have taken place and that the positive result reflects the influence of these discussions. This result is consistent with the results of previous studies (Higgins et al. 2006).

The results indicate partial support for the role of neutralization as a correlate of digital piracy. The only measure of neutralization we found to have a link with digital piracy was the view that it was "ok" to download music. Maruna and Copes (2005) argued that some individuals may use a different number of neutralizations and specific techniques. To us, our result suggests that the rationale of digital piracy being "ok" is relevant to the importance of the decision-making process. This result indicated that the individual who believes that digital piracy is "ok" will mitigate the possible criminal identity that comes with the crime. Thus, the view that neutralizations are relevant in understanding digital piracy is only partially supported. This provides a more thorough understanding of the connection of neutralization with digital piracy, a hypothesis that has been questionable at best in the current empirical literature.

While the view of the downloading digital piracy is "ok" in promoting digital piracy, the non-significant results deserve some attention as well. The non-significant results indicated that not all parts of neutralization might be relevant, which is consistent with previous research in the area using neutralizations (Hinduja 2007; Morris and Higgins 2009). Based on the operationalization of digital piracy in the present study, it could be that the individuals do not see the broader picture of the digital media industry. That is, the individual does not take into account the roles of government or the parts of the digital piracy industry when making the decision to pirate digital media.[3] This is an area of concern, as these are the entities that are harmed the most from the proliferation of this particular activity as noted above. Maruna and Copes (2005) argued that some offenses are more suitable for neutralization. The complete use of all of the neutralizations that Sykes and Matza (1957) presented may be better suited to explain certain types of crimes than other. It could be that digital piracy is a behavior that does not mesh well with neutralization theory.

We also performed an interaction analysis on our data. The interaction considered the influence of "ok" to download on all of the other measures in the study. By splitting the sample, we showed that this measure interacted with the peer association. The results indicated that neutralization and peer association interact to explain digital piracy. We believe that this is an indication of support for the view that neutralization is an exacerbating factor with peer association to explain digital piracy.

The theoretical implications of this study are substantial. First, our results suggest that Akers's (1998) claim that neutralization is a portion of definitions in differential association theory is supported. This means that neutralizations are part of the larger social learning theory process that assists individuals in taking a moral holiday to commit digital piracy. We interpret this to mean that some individuals are likely to commit digital piracy because of their association with digital pirating peers (in combination with neutralization). While we did not address this in our study, we suspect that the association with digital pirating peers is not specific to the "off-line" environment. In fact, Warr (2002) argued that virtual peers would have particular importance in the shaping of definitions. We suggest that future researchers investigate this avenue further.

Second, the integrative clarity of Hirschi's (1969, 2002, and 2004) arguments of self-control and neutralizations are not as clear. For instance, our results are supportive for Hirschi's (1969, 2002) contention that neutralization may be a portion of social control; however, the measure of neutralization does not interact with the measure of self-control used in this study. This is pregnant with possible interpretations. The measurement of self-control in this study may be culprit for the non-significant link with neutralizations. With the measurement of self-control being about the salient measures, neutralizations may be less salient. Another way to view this result is that Hirschi's (2004) version of self-control cannot be successfully integrated with neutralization in the context of digital piracy. We use caution when making this claim because of the limits of our data. Overall, our results do not necessarily provide support for integrating self-control with neutralizations.

While this study advances our understanding of digital piracy, the study has a few noted limits. The study could receive criticism as it used industry and government related measures of neutralization, as the measures could be focused more on the individual rather than at the macro level. Because Maruna and Copes (2005) argued that different offenses may require different neutralizations, open-ended methodologies (i.e., qualitative research or subject-generated responses) neutralizations may be necessary to adequately capture this concept. Nevertheless, our measures were adapted from previous research as valid measures of neutralizations and therefore should be viewed as credible. Furthermore, the study made use of cross-sectional data. Longitudinal data could be used in the future to address changes in the theoretical measures and the digital piracy.

The most notable limitation is the sample group. College students, the group most likely to participate in digital piracy, were questioned in this study. It could be argued that this limit the generalizability of the findings to only college students. However, multiple studies (Chiang and Assane 2002; Ramikrishna, Kini, and Vijayaraman 2001) utilize college student samples, indicating a value in these results. These findings are still important as it demonstrates the thought process used when committing digital piracy, a process that most likely is not only used by young adults but also others who commit this type of crime.

Despite the limits, the present study provides information about the intersection of self-control, peer association, neutralization, and digital piracy. The results

indicate that neutralization does have a positive link with digital piracy, but self-control and peer association also have links with digital piracy. Further, the study shows that neutralization interacts with peer association to help better understand digital piracy. Studies that use more the one location that are longitudinal and that use different measures of neutralization will helps us understand digital piracy. For now, the present study shows us that individuals' illegally download digital data based on peer associations and neutralization processes, but higher levels of self-control can help reduce instances of the behavior.

Endnotes

[1] Hirschi (2004) argued that his measure does not include a measure of involvement. He goes on to suggest that involvement could be used in this study and other studies.

[2] Per the request of an astute reviewer, we attempted a three-way interaction between self-control, differential association, and neutralization using two methods. The first method is that we used split ordinary least squares regressions. The second method was to mean center each measure, multiply them together, and use it as a covariate in the ordinary least squares regression. For each analysis, including our original analysis, we performed simulation analysis to understand the statistical power. The simulation consisted of using our original estimates (i.e., slope and standard errors) as the population parameters. We then performed 1000 replications of each model using the same distribution of each measure in the models. The results for each model in our original analysis had adequate levels of statistical power. However, when we attempted the additional models suggested by the reviewer, we did not have sufficient statistical power to have confidence in the results of these models. The results of these analyses are available on request.

[3] As one reviewer pointed out, it could be that most respondents have these negative thoughts about the music industry and government (not just pirates); thus, the neutralization measures do not have a link with digital piracy.

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APPENDIX A: SURVEY ITEMS

Scenario
A popular CD has just been released to music stores nationwide. All of your friends have heard the CD and told you that it is great and that you have to get it! Unfortunately, every time that you try to go to get the CD, you cannot because it is always sold out. However, a friend tells you about an on-line web-site that has posted an underground copy of the entire CD. The site will only allow visitors to download the CD, before the visitors can listen to it. You really want to the CD, but there is a 100 percent chance of getting caught. However, there is a 50 percent chance of downloading a virus when the CD is downloaded and there is a 100 chance that the music quality will be low.

Digital Pirating Peers
How many of your male friends that you have known the longest download music from the Internet without paying for it, excluding iTunes, in the last 12 months?

How many of your best male friends download music from the Internet without paying for it, excluding iTunes, in the last 12 months?

How many of your male friends that you are around the most download music from the Internet without paying for it, excluding iTunes, in the last 12 months?

How many of your female friends that you have known the longest download music from the Internet without paying for it, excluding iTunes, in the last 12 months?

How many of your best female friends download music from the Internet without paying for it, excluding iTunes, in the last 12 months?

Neutralizations
The entertainment industry exaggerates the impact of not paying for downloading music from internet.

Profit is emphasized above everything else in the entertainment industry.

The government overly regulates downloading music.

It is “ok” to download music without paying for it because CDs nowadays don't have good songs**.**

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Early Adult Outcomes of Male Arrest Trajectories: Propensity versus Causation Effects

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Abstract: *This study examined early adult outcomes of differing arrest trajectories across childhood through early adulthood that were identified in prior research for 197 at-risk young men. Early adult outcomes were assessed at ages 27-28 to 29-30 years. Predictive effects of arrest trajectory membership on outcomes were examined after controlling for various factors, including prior levels and early antisocial propensity. As early adults, both chronic offender groups showed poorer adjustment in terms of deviant peer affiliation, education, and work domains than did the Rare Offenders; High-Level Chronic Offenders stood out from all other groups in terms of mental health problems and physical aggression toward a partner. These effects represent plausible causal effects of developmental pathways of offending on the outcomes. Evidence for propensity effects on the outcomes was more limited. Theoretical and prevention implications are discussed.*

Keywords: early adult outcomes, life span, offending, trajectories

INTRODUCTION

Criminologists have long been interested in the characterization of developmental patterns of antisocial behavior and crime across the life course. Recent advances in statistical methods (e.g., Muthén and Shedden 1999; Nagin 1999) have been highly instrumental in rejuvenating interest in this topic and have resulted in several long-term studies demonstrating considerable heterogeneity in offender pathways across the adolescent and early adult years (for an overview, see Piquero 2008). Interestingly, the existing hypothesized dual taxonomies of antisocial and criminal behavior across the life course (e.g., Moffitt 1993, 1997; Patterson and Yoerger 1993, 1997) have received only moderate support. Key differences in recent findings include the lack of a clear adolescent-limited trajectory, a much more pronounced adolescent peak for the most severe offender trajectory than posited, and the lack of predictive value of age of onset in distinguishing between the higher and more moderate offender pathways (Wiesner, Capaldi, and Kim 2007). Furthermore, studies often found more than two trajectories when using self-reports of offending (Piquero 2008).

By comparison, the linkage between differing offender pathways and subsequent outcomes has received limited attention in empirical work. There is preliminary evidence that different offender pathways show differences in levels of problematic outcomes in a broad range of early adult-life domains, but these effects are difficult to interpret if researchers do not control for prior levels of the

respective outcomes and propensity factors. Without controls for either early antisocial behavior or underlying propensities, it is difficult to rule out the counter argument derived from propensity theory (e.g., Gottfredson and Hirschi 1990) that differential early adult outcomes of distinctive offender pathways merely reflect stable individual differences in antisocial behavior or an underlying, shared propensity factor, such as poor self-control. This is a highly relevant theoretical issue because it speaks to the on-going debate of whether population heterogeneity, state dependence, or a mixture of both processes offers the best explanation of such findings. The purpose of this prospective study was to address this issue using official records data on arrest trajectories from an at-risk sample of young men. The study extends prior research that had identified three arrest trajectory groups for this sample: High-Level Chronic, Low-Level Chronic, and Rare Offenders (Wiesner et al. 2007).

Background

In prior research, we hypothesized that high levels of chronic involvement in antisocial behavior are related to cumulative developmental failures (Capaldi 1991, 1992; Patterson and Capaldi 1991). Specifically, antisocial behavior and developmental failures lead to restriction of environmental options (e.g., rejection by socially skilled peers, academic failure, and high school dropout), that subsequently limit future social interaction, education, and employment opportunities (Capaldi and Stoolmiller 1999). Thus, these failures can act as "snares" (Moffitt et al. 1996) that diminish the chances for later success in more conventional arenas and entrap persistent offenders in a deviant life style. More severe offenders are also posited to carry overlearned coercive interaction styles[1] into new, age-graded social contexts (e.g., intimate relationships, work relationships) (Wiesner, Capaldi, and Patterson 2003) and to continue engagement in high-risk social contexts, such as selecting antisocial partners in young adulthood (Kim and Capaldi 2004) and engaging with criminal or deviant peers. Pathways of less severe offending, in contrast, are posited to be associated with less problematic outcomes than those of severe offenders but are still predicted to show poorer adjustment levels than those of none or rare offenders.

The dual taxonomies of offending that have predominated in the past decade (e.g., Moffitt 1993, 1997, 2006; Patterson and Yoerger 1993; Wiesner et al. 2003) posit considerably better outcomes for lower than for higher level offending trajectories. Thereby, early onset or life-course persistent offenders are hypothesized to follow the failure pathway; late starters or adolescence-limited offenders, on the other hand, are hypothesized to show less problematic outcomes because they have better adjustment skills (Patterson and Yoerger 1993), less severe developmental failures, and less time to accumulate negative consequences (Moffitt 1993). In general, however, these models appear to predict differences in levels of problematic outcomes, rather than distinctly different clusters of outcomes.

Relatively few long-term studies have provided empirical tests of such hypothesized differential effects. Three studies have tested a quite comprehensive set of outcome domains and largely provided support for the hypothesized rank ordering of offender pathways but did not control for prior levels of the given outcome (Moffitt et al. 2002; Nagin, Farrington, and Moffitt 1995; Piquero et al. 2007). For instance, Moffitt and colleagues (2002) found that men on the life-course persistent and adolescence-limited offender pathways had less education, more economic and employment difficulties, more alcohol- and drug-related problems, and higher levels of depression at age 26 years than did unclassified men. On many of these indicators, life-course persistent offenders showed significantly poorer profiles than did adolescence-limited offenders. In addition, life-course persistent offenders evidenced significantly more problems in the areas of abuse against female partners, fathering a large number of children, and hitting a child in anger at age 26 years than did most other groups. At least two other studies (Wiesner, Kim, and Capaldi 2005; Wiesner and Windle 2006) included controls for prior levels of the given outcome—thus providing a more stringent statistical test—but tended to focus on shorter developmental periods and/or fewer outcome domains. In general, these two studies found relatively few significant differences in examined outcomes among pathways characterized by high versus moderate levels of offending across time, though differences were more marked when high-level offenders were compared with rare or nonoffenders.

Summarizing, the available empirical literature offers some support for the contention that higher-level chronic offenders generally display poorer adjustment in early adulthood than do offenders in other trajectories, but the differences between them and lower-level chronic offenders appear to be negligible for some of the outcome domains. A limitation of this literature is that it is based on just a few studies and that relatively few of them controlled for prior levels of the given outcome measure, and almost none controlled for early antisocial propensity factors. Finally, most of the prior studies examined this issue using self-report data rather than official records measures of offending. The current study addressed these shortcomings in a number of ways, by focusing on a broad range of outcomes, examining outcomes for offender trajectory groups derived from official records data, following-up the participants over a longer developmental period than much extant research, and including systematic controls of early propensity for antisocial behaviors and other factors.

Study Aims and Hypotheses

This study examined predictive effects of different arrest trajectories on a broad range of early adult outcomes measured at ages 27-28 to 29-30 years for at-risk young men, controlling for childhood antisocial behavior, childhood and adolescent proxy of the outcome, parents' criminality, and demographic factors. Consistent with the described developmental failure model (e.g., Capaldi 1991, 1992; Patterson and Capaldi 1991), we expected that high-level chronic offenders would show poorer outcomes than those of any lower-level offender groups in the following domains: education and work, mental health problems, drinking and drug use, antisocial partnering, deviant peer affiliation, and aggression toward a partner. In addition, lower-level offenders were expected to show poorer outcomes in these domains compared with rare offenders. Parents' criminality was included to control for effects of crime displayed in the immediate environment of the men during their childhood years and possible genetic influences. Childhood antisocial behavior was included to help disentangle the effects of a shared stable propensity factor from plausible causal effects of the arrest trajectories on the outcomes.

METHOD

Sample

The analyses were conducted using data from the Oregon Youth Study (OYS), which is an ongoing multi-agent and multi-method longitudinal study. A sample of boys was selected from schools in the higher-crime areas of a medium-sized metropolitan region in the Pacific Northwest. Thus, the boys were considered to be at heightened risk for later delinquency when compared with others in the same region. Of the eligible families, 206 agreed to participate (a 74.4 percent participation rate). The OYS consists of two successive Grade 4 (ages 9-10 years) cohorts of 102 and 104 boys, recruited in 1983-1984 and 1984-1985 (for details see Capaldi and Patterson 1987). The average retention rate was 98 percent through the early 20s, and 94 percent of living participants still remained as part of the panel in Year 20. Participants who moved out of the area were retained in the study, with interviewers traveling to assess them. Capaldi and Patterson (1987) conducted extensive comparisons of the two cohorts and found that they had very similar demographic characteristics. Consistent with prior studies, data from the two cohorts were thus combined for the current analyses. The sample was 90 percent Caucasian and 75 percent lower or working class; over 20 percent received some form of unemployment or welfare assistance in the first year of the study, which was a recession year for the local economy (Patterson, Reid, and Dishion 1992). Three young men who died during the study period and six other men who did not participate in the last three waves of data collection during which the outcome domains were assessed were excluded from the analyses; hence, the final sample size was 197. Parametric and nonparametric comparisons were performed to assess potential bias on study variables among men with complete data and those excluded from regression analysis because of missing values. No significant differences among the two groups were found for any of the variables used in the regression models, including the arrest trajectory grouping variable (all $p > .05$).

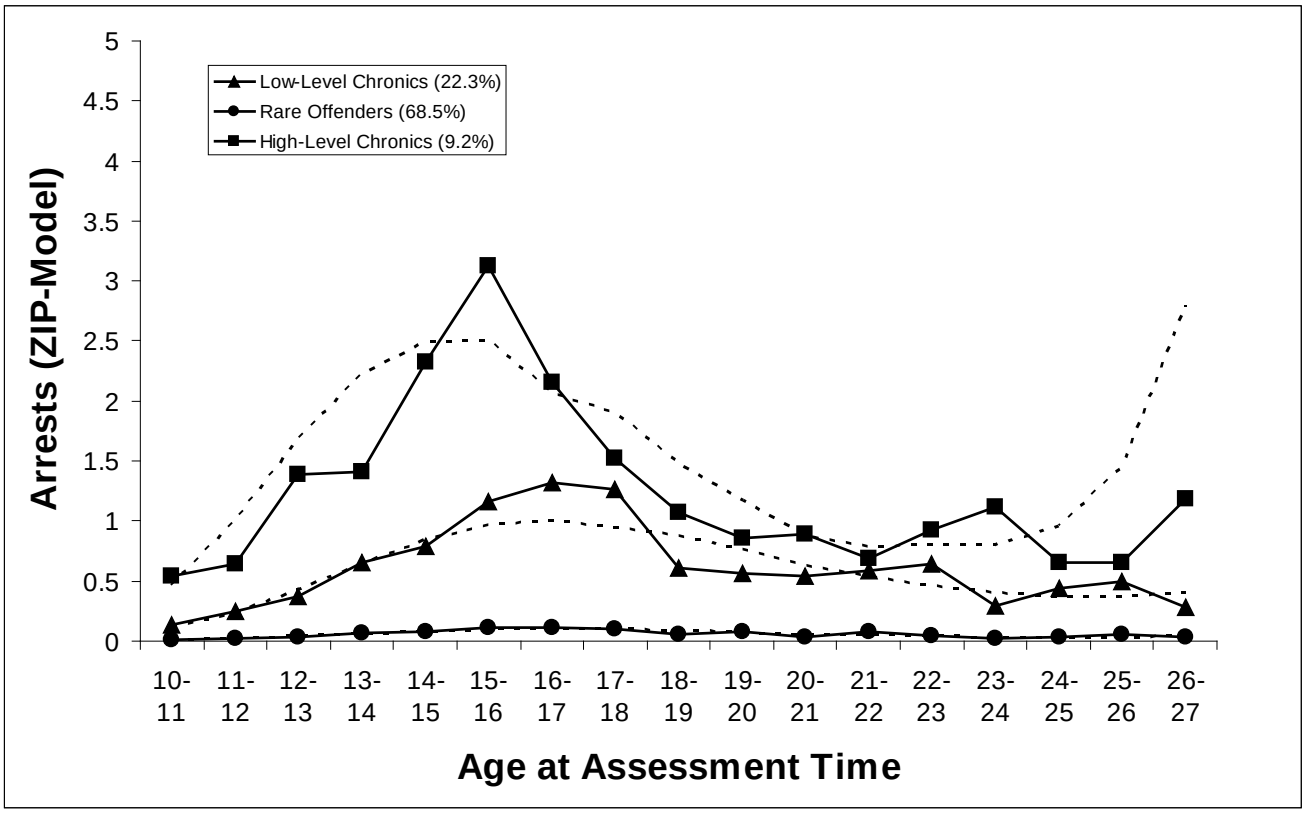
Procedures

Assessment on the OYS was yearly, multi-method, and multi-agent, including in-person interviews and questionnaires for self and parents at the Center (each lasting approximately 1 hour), telephone interviews that provided multiple samples of recent behaviors (a total of six, three days apart), home observations (a total of three 45-minute observations), videotaped interaction tasks, school data (including teacher questionnaires and school achievement test scores), and court records. Family consent was mandatory. Participants were compensated for their time at each assessment wave.

Measures

Arrest trajectories. This study compared groups with different trajectories of offending (as indexed by number of arrests derived from juvenile and adult court records) that were already identified and described in an earlier report. Using semi-parametric group-based modeling (Nagin 1999, 2005), Wiesner et al. (2007) identified heterogeneous subgroups with distinct developmental trajectories of arrests from ages 10-11 through 26-27 years (i.e., Waves 2 to 18), controlling for exposure time. A detailed account of the method, analysis strategy, model selection criteria, and model fit statistics is provided in their study. Briefly summarizing, Wiesner et al. (2007) identified three trajectory groups, including 141 (68.5 percent) *Rare Offenders* who almost never were arrested during the entire study period; 43 (22.3 percent) *Low-Level Chronic Offenders* who had a consistently low rate of arrests across the study period, with a slight peak around the middle adolescent years; and 19 (9.2 percent) *High-Level Chronic Offenders* who started with a similarly low arrest rate but then continuously increased toward a peak in the middle adolescent years, followed by a decrease to about the same level as the Low-Level Chronic group when they reached their early 20s and another slight upsurge around their mid 20s. The three trajectory groups are shown in Figure 1. The classification quality was very high, with average posterior group membership probabilities ranging from .926 to .979 for the three classes and median posterior group membership probabilities

Figure 1: *Fitted (Dashed Lines) versus Empirical (Solid Lines) Trajectories of Officially Recorded Offending for OYS Men.*



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ranging from .988 to .998. Borderline individuals who had similar or equal probabilities across classes were extremely rare. Assignment uncertainty, thus, was not considered a major problem for additional analyses with this sample. A final important finding was that both chronic offender groups had a significantly higher share of men with arrests for violent crimes than did the rare offender group.

Computation of Early Adult and Control Measures

The general strategy for building composite variables in the OYS has been described by Capaldi and Patterson (1989) and Patterson et al. (1992). Wherever possible, the measures were computed using data from multiple informants and various methods. In short, a three-stage process was used: First, the internal consistency of the items associated with each scale was established in Cohort 1 (alpha of at least .6; item-total correlation of at least .2). Second, the convergent validity of the indicators for a construct was examined within a principal component factor analysis (the factor loading for the one-factor solution had to be at least .3). Third, the internal consistency of the item scales and the convergent validity of the construct indicators had to replicate in Cohort 2. This procedure ensured that reports from multiple informants and methods were substantively associated with each other. If a composite variable consisted of indicators with differing response formats, indicators were standardized before averaging them.

All *early adult outcome measures* were gathered when the young men were ages 27-28 to 29-30 years (i.e., Waves 19-21). Thus, the early adult measures were obtained after the assessment of the young men's officially recorded offending behavior was completed. The variables were coded so that a higher score represented a more problematic behavior or outcome. Details on the early adult outcome measures, including internal consistency estimates, can be found in Table 1. Unless noted otherwise, answers were averaged across the three waves to increase the reliability of the measures.

Parents' criminality. This measure was created from the state of Oregon arrest records and indicated the number of arrests ever experienced in state by both parents during Wave 1.

Proxy measures for early adult outcomes. For each early adult outcome, we controlled for a proxy measure of the same behavior in childhood assessed at age 9-10 years (i.e., Wave 1) and assessed in adolescence at ages 13-14 years, 15-16 years, and 17-18 years (i.e., Waves 5, 7, 9). The proxy measures were coded so that a higher score represented a more problematic behavior or situation (e.g., a higher score indicated a higher level of childhood antisocial behavior), with the exception of childhood and adolescent academic achievement where higher scores indicated better academic achievement. *Childhood antisocial behavior* served as proxy measure for antisocial partnering, psychological aggression toward a partner, and physical aggression toward a partner in early adulthood as it has been found in multiple studies to be the strongest childhood risk factor for intimate partner violence (Capaldi, Shortt and Kim 2005). It was measured with items from teacher-reports (19 items, $\alpha = .94$) and parent-reports (15 items each, $\alpha = .82$ each) of the Childhood Behavior Checklist (Achenbach 1991). Similar to earlier research with data from the OYS (e.g., Capaldi and Stoolmiller 1999), the construct was created using items from the delinquent and aggressive behavior subscales but excluding items from those scales that either overlapped with other constructs or were ambiguous (e.g., those pertaining to alcohol and drug use, and mood changes). The composite variable of childhood antisocial behavior contained both overt and covert antisocial behaviors, including arguing a lot, being disobedient at school, getting into many fights, lying, and also cruelty, bullying, and meanness to others. *Childhood academic achievement* was used as a proxy measure for low educational attainment and months unemployed. It was a composite of the total score on the Wide Range Achievement Test (Jastak and Jastak 1978), parent and teacher ratings of the boys' performance in reading, spelling, writing, and math on the Child Behavior Checklist (Achenbach 1991), and the test scores on the standardized Scholastic Aptitude Test (from official school records). A *childhood mental health problems* score was formed by computing the mean across teacher and parent ratings (total *T*-scores) on the Child Behavior Checklist (Achenbach 1991). This composite score served as proxy measure for mental health problems. The *childhood deviant peers* score was developed by computing the mean across peer nominations, parent ratings, and child reports on belonging to a tough group, peer drinking, and peer deviant behaviors. This composite score served as proxy measure for deviant peer affiliation in early adulthood. For the early adult quantity-frequency index of alcohol use, *childhood alcohol use* (i.e., self-reported frequency of consumption in the past year) was used as proxy measure. *Childhood drug use* was measured by the self-reported frequency of drug use (i.e., hard drugs and marijuana) in the last year and was used as proxy measure for early adult drug use.

The adolescent proxies of the given early adult outcome domain were created in an analogous manner to the childhood proxy measures and are, consequently, not described again. However, one adolescent proxy variable, which was not available at the Wave 1 assessment period, was added for the prediction of both psychological and physical aggression toward a partner. The new proxy, *adolescent hostility toward women*, was assessed with 23 items of a self-report scale from Check and Malamuth (1983).

RESULTS

Mean Levels of Descriptor Variables by Trajectory Group Membership

Shown in Table 2 are descriptive statistics (means and standard deviations unless otherwise noted), along with the results of univariate analyses of variance (chi-square tests for categorical variables, respectively) for each variable. Overall, most variables were significantly associated with trajectory group membership. Although the mean levels generally indicated more problematic backgrounds and outcomes for the High-Level Chronic group, there were a number of instances where the mean levels for the Low- and High-Level Chronic groups were very similar or possibly even more problematic for the Low-Level Chronic group. The Low-Level Chronic group showed the lowest level of childhood academic achievement and the highest levels of childhood substance use. Note that although the difference was not significant, the Low-Level Chronic group showed the highest level of parental criminality. It is possible that they came from relatively risky childhood backgrounds that included higher parent substance use. Four variables did not differ significantly by arrest trajectory group; namely, boy's age, parents' criminality, early adult alcohol use, and early adult drug use.

Prediction to Early Adult Outcomes

Next, prediction from arrest trajectories to early adult outcomes was examined in multiple regression analyses (for the binary outcome low educational attainment, logistic regression was used; for all other outcomes, linear regression models were used).[2] In order to test the a priori hypotheses, a contrast-coding (Cohen et al. 2003) scheme[3] was applied. *Contrast 1* compared the two chronic offender groups with the Rare Offender group. *Contrast 2* compared the High-Level Chronic offender group with the Low-Level Chronic offender group. Predictive effects of the two contrast variables were controlled for age, parental socioeconomic status (SES), parental criminality, childhood antisocial behavior, and a childhood and an adolescent proxy measure of the given outcome (unless

Table 1. ***Description of Constructs and Scales.***

Construct/ Measure	No. of Items	Cronbach Alpha[1]	Description or Sample Item
Low Educational Attainment (Yes, No)			No high school graduation/GED (1) versus regular high school degree and higher (0)
1. Young Man – Self-reported educational history for each month of the given year	1	---	Highest educational degree obtained by end of the 3-year period
2. School Records and State Records	1	---	One-time verification of high school graduations and GED diplomas
Months Unemployed			
1. Young Man – Self-reported employment history for each month of the given year	1	---	Total number of months unemployed summed up across the 3-year period (excluding unemployment periods resulting from disability, being a student, or incarceration)
Mental Health Problem			
1. Young Man – Brief Symptom Inventory (Derogatis and Spencer 1982)	53	.96, .97	Global Severity Index (Standardized *T*-Score), averaged across Waves 19 and 21
Quantity-Frequency-Index (QFI) of Alcohol Use			
1. Young Man – Structured Interview	6	---	Average number of ounces of ethanol consumed per day in given year (based on separate reports for beer, wine, and hard liquor usage)
Drug Use			
1. Young Man – Structured Interview	5	---	Annual frequency of drug use (based on separate reports for marijuana, cocaine or crack, hallucinogens, opiates, and other not over-the-counter drugs usage)
Antisocial Partnering			
1. Female Partner – Elliott Behavior Checklist (Elliott 1983)	13	.76 - .82	Self-reported delinquent behavior of the young man's most recent female partner during the 3-year period
2. Interviewer/Coder Ratings – Questionnaire	4	.65 - .84	Partner seemed antisocial or delinquent
Physical Aggression Toward a Partner			
1. Self-report			
Adjustment with Partner (Kessler 1990)	2	.62 - .83	When disagree, how often do you push, grab, shove, throw something at partner, slap, or hit?
Dyadic Social Skills Questionnaire	1		You sometimes hurt your partner (e.g., hit her or twist her arm)?
Conflict Tactics Scale (Straus 1979)	6		Threw something at your partner
2. Partner-report			
Adjustment with Partner (Kessler 1990)	2	.73 - .87	When disagree, how often does he push, grab, shove, throw something at you, slap, or hit?
Interview	1		How many times has your partner hurt you?
Dyadic Social Skills Questionnaire (Capaldi 1994)	1		Your partner sometimes hurts you (e.g., hit or twist your arm)?
Conflict Tactics Scale (Straus 1979)	6		Threw something at you
3. Coder report			
Coder impression rating	4	*r*=.14 - .33	Displayed push, grab, or shove during task
Coded physical aggression (Stubbs et al. 1998)	NA		Rate per minute of aversive physical content during task
Psychological Aggression Toward a Partner			
1. Self-report			
Dyadic Social Skills Questionnaire (Capaldi 1994)	10	.63 - .83	Say mean things about your partner behind her back
Conflict Tactics Scale (Straus 1979)	6		Yelled and/or insulted partner
Interview	1		Name calling, threats, sulking, or refusing to talk, screaming or cursing, throwing/breaking something [not at partner]?
Adjustment with Partner (Kessler 1990)	1		When disagree, how often do you insult or swear, sulk or refuse to talk, stomp out of the room, threaten to hit?
2. Partner-report			
Adjustment with partner (Kessler 1990)	4	.61 - .87	When disagree, how often does he insult or swear, sulk or refuse to talk, stomp out of the room, threaten to hit?
Dyadic Social Skills Questionnaire (Capaldi 1994)	10		Your partner blames you when something goes wrong.
Partner Interaction Questionnaire (Capaldi 1994)	17		Broken or damaged something of yours on purpose?
Conflict Tactics Scale (Straus 1979)	6		Yelled and/or insulted you.
Interview	1		Name calling, threats, sulking, or refusing to talk, screaming or cursing, throwing/breaking something [not at you]?
3. Coder report			
Coder impression rating	11	*r*=.52 - .62	Was derogatory, sarcastic to partner in task, or called partner in task negative names.
Coded psychological aggression (FPPC: Stubbs et al. 1998)	NA		Rate per minute of negative interpersonal, verbal attack, and coercive behavior
Affiliation with Deviant Peers			
1. Young Man – Structured Interview	19	.91	During the last year, how many of your friends have stolen something worth less than $5.00
2. Young Man – Young Adult Self-Report (Achenbach 1993b)	1	---	I hang around with others who get in trouble
3. Parent Report – Young Adult Adjustment Questionnaire (Capaldi, King, and Wilson 1992)	5	.86 - .90	Do you feel that your son's friends have a good influence on his behavior
4. Parent Report – Young Adult Behavior Checklist (Achenbach 1993a)	1	---	[Your son] hangs around with people who get in trouble

[1]Reliabilities are reported for Waves 19, 20, and/or 21.

Table 2. ***Descriptive Statistics for all Study Variables.***

Variable	Total	By Arrest Trajectory Group			*p*-value
		Rare Offenders	Low-Level Chronics	High-Level Chronics	
Age	10.09 (0.49)	10.06 (0.46)	10.17 (0.58)	10.13 (0.43)	*ns*
Parents' SES	32.54 (0.91)	34.44 (10.23)	28.14 (7.82)	28.21 (7.38)	.000
Parents' Criminality	0.90 (2.64)	0.66 (2.79)	1.65 (2.35)	1.00 (1.73)	*ns*
Child Antisocial Behavior	0.32 (0.27)	0.27 (0.22)	0.40 (0.34)	0.48 (0.33)	.007
Child Academic Achievement	0.02 (0.75)	0.10 (0.74)	-0.26 (0.72)	0.01 (0.70)	.020
Child Mental Health Proxy	54.06 (8.91)	51.49 (8.32)	59.80 (7.24)	60.07 (7.83)	.000
Child Alcohol Use Proxy	0.63 (0.74)	0.53 (0.61)	1.01 (1.03)	0.56 (0.53)	.003
Child Drug Use Proxy	0.11 (0.55)	0.02 (0.16)	0.41 (1.11)	0.05 (0.16)	.012
Child Deviant Peers Proxy	0.00 (0.65)	-0.13 (0.47)	0.25 (0.87)	0.33 (0.83)	.007
Adol. Antisocial Behavior	0.32 (0.25)	0.22 (0.17)	0.54 (0.23)	0.60 (0.32)	.000
Adol. Academic Achievement	-0.07 (0.77)	0.03 (0.76)	-0.32 (0.75)	-0.27 (0.79)	.013
Adol. Mental Health Proxy	50.93 (8.40)	48.32 (7.71)	56.36 (7.27)	57.04 (6.70)	.000
Adol. Alcohol Use Proxy	0.94 (0.77)	0.72 (0.63)	1.44 (0.80)	1.44 (0.85)	.000
Adol. Drug Use Proxy	0.49 (0.89)	0.27 (0.58)	0.90 (1.16)	1.20 (1.31)	.001
Adol. Deviant Peers Proxy	1.78 (0.51)	1.61 (0.39)	2.19 (0.56)	2.18 (0.43)	.000
Adol. Hostility Toward Women	0.24 (0.18)	0.21 (0.18)	0.31 (0.15)	0.33 (0.18)	.001
Low Educational Attainment [a]	47.2 (93)	34.6 (47)	73.8 (31)	78.9 (15)	.000
Months Unemployed [b]	1.19 (1.51)	0.93 (1.40)	1.86 (1.65)	1.57 (1.44)	.001
Mental Health Problems	50.21 (10.03)	49.16 (9.52)	50.84 (11.45)	56.34 (8.27)	.012
Alcohol Use (QFI) [c]	0.77 (0.22)	0.77 (0.21)	0.74 (0.25)	0.81 (0.26)	*ns*
Drug Use	0.67 (0.66)	0.65 (0.64)	0.66 (0.64)	0.85 (0.84)	*ns*
Deviant Peer Affiliation	0.00 (0.80)	-0.21 (0.66)	0.39 (0.86)	0.69 (0.95)	.000
Antisocial Partnering	-0.06 (0.25)	-0.11 (0.24)	0.03 (0.22)	0.13 (0.27)	.000
Psychological Aggr. toward Partner [d]	1.91 (0.51)	1.85 (0.51)	1.97 (0.48)	2.18 (0.50)	.028
Physical Aggr. toward Partner [b]	0.18 (0.21)	0.16 (0.21)	0.18 (0.20)	0.30 (0.25)	.034

Note. Each column shows means, and standard deviations are given in parentheses. QFI =Quantity-Frequency-Index

[a] Column shows percentages and number of men in parentheses for this variable.

[b] In square root transformed metric.

[c] In inverse transformed metric.

[d] In base 10 logarithm transformed metric.

childhood antisocial behavior was sufficient as an early proxy measure). An inspection of bivariate associations among the early adult outcome measures revealed a small to moderate degree of overlap among them (not shown). The largest absolute correlations were between psychological and physical aggression toward a partner ($r = 0.65$, $p < .001$) and between deviant peer affiliation and antisocial partnering ($r = 0.58$, $p < .001$). The majority of correlations ranged from .10 to .30 in absolute value, and they were generally in the expected direction.

Because group sizes were quite small for some arrest trajectories, the significance level was not adjusted for the number of regression models but set to $p = .05$ when evaluating the significance of predictive effects on each outcome in order to compensate for the relatively low statistical power.[4] Findings for the conceptually most important predictors in regression models are shown in Table 3. Univariate effects for each variable are shown for comparison purposes. Overall, there were relatively few significant predictive effects, especially for the measures of early adult substance use (i.e., alcohol consumption and drug use—although not shown—the same pattern of findings was also observed for a measure of binge drinking). Even after controlling for other risk factors, childhood antisocial behavior was consistently and positively related to low educational attainment, higher levels of antisocial partnering, and higher levels of psychological and physical aggression toward a partner in early adulthood. Relatively few childhood and adolescent proxy measures had significant predictive effects when other variables were controlled for. Contrast 1 indicated a significant association of chronic offending with low educational attainment, months unemployed, and deviant peer affiliation controlling for other predictors. As expected, members of both chronic offender groups showed poorer adjustment in these domains relative to Rare Offenders. Contrast 2 indicated that only two of the outcomes, namely mental health problems and physical aggression toward a partner, were distinguished between the two chronic offending groups, controlling for effects of other variables; High-Level Chronic offenders showed higher levels on both measures relative to Low-Level Chronic offenders.

DISCUSSION

An at-risk U.S. community sample of 203 young men was used to examine associations between three distinct trajectory groups of offending and a set of multidomain early adult outcomes. These trajectories of High-Level Chronic, Low-Level Chronic, and Rare Offenders were identified based on arrest histories in a prior study (Wiesner et al. 2007). Whereas two major groups of offenders were identified in the prior study, one more severe than the other, they did not fit with predictions from the dual taxonomy models of Patterson and Moffitt in a number of respects. In particular, they did not show differential ages at first arrest, there was no clear adolescent-limited trajectory, and both groups continued offending after adolescence but both showed a substantial downward trend in offending in later adolescence, particularly the Chronic High-Level offenders. Despite these differences, hypotheses related to outcomes (controlling for prior levels and early antisocial behavior), based in part on the dual taxonomy models, were tested for the High-Level Chronic and Low-Level Chronic offender groups.

Overall, the multivariate analyses indicated that both chronic offender groups showed poorer functioning in the deviant peer affiliation, education, and work domains by the late 20s than Rare Offenders, and High-Level Chronic offenders had more problems related to both mental health and physical aggression toward a partner as early adults than did Low-Level Chronic offenders, controlling for effects of other variables. Differential early adult outcomes of the arrest trajectory groups were not observed for antisocial partnering, psychological aggression toward a partner, alcohol use, and drug use.

Both the High- and Low-Level Chronic offender groups showed poorer adjustment in their late 20s in multiple domains than the Rare Offender group. There was evidence, however, of considerable overlap among the two chronic offender groups in the sense that they were indistinguishable on several outcome domains. As predicted by dual taxonomies (e.g., Moffitt 1993; Patterson and Yoerger 1993), High-Level Chronic offenders had higher levels of mental health problems and physical aggression toward a partner than did Low-Level Chronic offenders. This should be viewed as a tentative result, however, because the strength of these effects was somewhat dependent on the chosen class assignment method (i.e., as described in Footnote 2, the predictive effects of Contrast 2 were smaller in magnitude when randomized class assignment was used). Because these prospective effects were controlled for childhood and adolescent levels of the outcomes (where developmentally appropriate), parental criminality (a proxy for possible genetic influences), and early antisocial behavior, we can conclude that they do not merely reflect spurious associations caused by an underlying, shared risk factor (as claimed by propensity theories of crime) but to some extent are variations arguably caused by the cumulative failures or problems associated with sustained offending over time (as posited by developmental theories of crime).[5] This interpretation is bolstered by the additional finding (not reported) that the sum of all official arrests experienced by an OYS man across the same time period (i.e., Waves 2-18) was a considerably less salient predictor of the same set of outcomes compared with arrest trajectory membership, controlling for the same factors as in the analyses shown above. This important finding suggests that variation in developmental pathways of

Table 3. ***Univariate and Multivariate Regression Predictions to Low Educational Attainment, Months Unemployed, Mental Health Problems, Alcohol Use, Drug Use, Deviant Peer Affiliation, Antisocial Partnering, Psychological Aggression Toward a Partner, and Physical Aggression Toward a Partner at Ages 27/28 to 29/30 Years (Waves 19-21).***

Predictor	*Univar. B*	*B*	*SE*	*Exp(B)*		*Univar. b*	*b*	*SE*	*β*		*Univar. b*	*b*	*SE*	*β*
	Low Educational Attainment (n =197)					Months Unemployed (n = 197)					Mental Health Problems (n = 197)			
Childhood Anti-social Behav.	3.23***	2.22	0.77	9.19**		1.16**	0.52	0.46	0.09		7.01**	-0.92	4.68	-0.03
Childhood Proxy	-0.60***	-0.09	0.25	0.92		-0.28*	-0.04	0.16	-0.02		0.27***	0.18	0.17	0.16
Adolescent Proxy	-0.70***	-0.47	0.25	0.63†		-0.22	-0.08	0.16	-0.04		0.30***	0.17	0.12	0.15
Contrast 1	1.21***	0.69	0.29	1.99*		0.53***	0.40	0.19	0.19*		2.95**	1.82	1.25	0.13
Contrast 2	0.14	0.19	0.35	1.21		-0.14	-0.14	0.20	-0.05		2.75*	2.65	1.34	0.14*
Model Fit	---	Model $\chi^2_{(df=8)}$ = 51.10***				---	R^2 = 0.09*				---	R^2 = .11**		
Predictor	*Univar. b*	*b*	*SE*	*B*		*Univar. b*	*b*	*SE*	*β*		*Univar. b*	*b*	*SE*	*β*
	QFI Alcohol Consumption (n = 197)					Drug Use (n = 197)					Deviant Peer Affiliation (n = 197)			
Childhood Anti-social Behav.	0.04	0.05	0.07	0.05		0.28	0.33	0.19	0.13†		0.30***	0.34	0.22	0.11
Childhood Proxy	0.01	0.03	0.02	0.10		-0.05	-0.10	0.09	-0.08		0.07	-0.13	0.09	-0.11
Adolescent Proxy	-0.05*	-0.06	0.02	-0.22**		0.21***	0.23	0.06	0.31***		0.56***	0.33	0.12	0.21**
Contrast 1	0.00	-0.01	0.03	-0.02		0.07	-0.07	0.09	-0.07		0.44***	0.40	0.10	0.36***
Contrast 2	0.03	0.04	0.03	0.09		0.10	0.05	0.09	0.04		0.10	0.15	0.10	0.11
Model Fit	---	R^2 = .10*				---	R^2 = .12**				---	R^2 = .25***		
Predictor	*Univar. b*	*b*	*SE*	*B*		*Univar. b*	*b*	*SE*	*β*		*Univar. b*	*b*	*SE*	*β*
	Antisocial Partnering (n = 181)					Psychological Aggression Toward a Partner (n = 181)					Physical Aggression Toward a Partner (n = 181)			
Childhood Anti-social Behav.	0.38***	0.16	0.08	0.18*		0.42**	0.37	0.16	0.20*		0.16**	0.15	0.07	0.19*
Adolescent Proxy	0.45***	0.31	0.10	0.32**		0.27	0.11	0.22	0.04		0.01	-0.05	0.10	-0.04
Contrast 1	0.13***	0.01	0.03	0.03		0.15**	0.05	0.07	0.07		0.05*	0.02	0.03	0.06
Contrast 2	0.05	0.04	0.03	0.08		0.11	0.11	0.07	0.12		0.06*	0.06	0.03	0.16*
Model Fit	---	R^2 = .25***				---	R^2 = .08*				---	R^2 = .07†		

Note. All parameter estimates shown are additionally controlled for boy's age, parents' SES, and parents' criminality. Arrest trajectory group assignment based on maximum posterior probability class assignment rule. Employing a contrast-coding scheme: *Contrast 1* (High-Level Chronic + Low-Level Chronic Offenders versus Rare Offenders), and *Contrast 2* (High-Level Chronic Offenders versus Low-Level Chronic Offenders). The months unemployed score and the physical aggression toward a partner score were positively skewed, and the square root transformation was used. The Quantity Frequency Index (QFI) score was positively skewed, and the inverse transformation was used. The antisocial partnering score was positively skewed, and the base 10 logarithmic transformation was used. *Univar* = Univariate unstandardized regression weight.

*** $p < .001$
** $p < .01$
* $p < .05$
† $p < .10$

offending is more meaningful and provides more complex insights into the patterns of differential outcomes than variation in total levels of offending.

These conclusions are obviously dependent on the adequacy of the measure of early antisocial behavior. The measurement of the propensity for crime has been a contentious issue in the literature. According to propensity theory (see Hirschi and Gottfredson 1993), propensity for crime "is significantly comprised by early behavioral indicators of aggression and fighting" (Polakowski 1994:41) and is best measured in childhood. Our measure of antisocial behavior was assessed at ages 9-10 years and contained various indications of overt and covert antisocial behaviors, as observed by the boys' parents and teachers (not the boys themselves). Although this focus on behavioral components of propensity for crime fits well with propensity theory (see also Tittle, Ward, and Grasmick 2003), we note that data on additional features of the construct, such as impulsivity, specific domains of executive functioning, and various dimensions of temperament, were not employed. Inclusion of nonbehavioral components of the propensity for antisocial behavior in further research on this topic would be helpful insofar as it would provide an even stronger basis for ruling out concerns that the predictive effects were spurious (i.e., the result of a shared underlying risk factor).

In prior research with the OYS sample, we also found prospective associations of self-reported offender pathways to some early adult outcomes (see Wiesner et al. 2005) when controlling for prior levels and early antisocial behavior. This demonstrates some convergence of findings across different assessment methods of delinquent behavior. We are not aware of other research that has employed this relatively conservative hypothesis testing strategy using both self-report and official records measures of offending. Cross validation of these findings with independent samples would be helpful for the field.

The pattern of predictive effects to early adult outcomes suggests that the adverse effects of both Low- and High-Level Chronic offending do not necessarily permeate all domains of life at the end of the 20s. Notably, no adverse effects were observed for early adult drinking and drug use, which is inconsistent with our prior findings for self-report-based trajectories of offending with the same sample (Wiesner et al. 2005) as well as some other studies (e.g., Piquero et al. 2007). The source of these inconsistencies is not clear because the measures of alcohol and drug use were quite comparable to those in most of the other studies. A possibility is that a maturing out phenomenon had materialized in the assessment years after the prior study, because the significant negative predictive effect of the adolescent alcohol proxy measure indicated that those who consumed more alcohol in adolescence drank less in their late 20s. This might have reduced variability in the drinking outcome measures. It is also possible that men involved in the justice system were mandated to substance use treatment programs; also, clean drug use tests may be a condition of probation and parole. Sample characteristics may also play a role, but at least for the OYS sample, the association between offender trajectories and early adult substance use is not very robust because it depended on the measurement of offending behavior. It will be of interest to see whether this also holds when more long-term adjustment profiles are examined for the men.

The findings from this study further indicated considerable overlap among chronic offender groups, with Low-Level Chronic offenders (in addition to High-Level Chronic offenders) experiencing adverse consequences of their sustained offending behavior in subsequent periods of life, most notably in the education, work, and deviant peer affiliation domains. Other studies have arrived at similar conclusions but often without controlling for prior levels and other factors (e.g., Nagin et al. 1995). Given the scant literature basis and because more specific mechanisms were not directly tested in the current study, interpretation of processes that accounted for the observed adverse consequences must be done with caution. For the reasons described in Footnote 5, it appears unlikely that incarceration or other forms of custody were the primary agents for the adverse consequences in the education and work domains. Rejection by normative peers and self-selection effects are a possibility for explaining the adverse effects in the deviant peer affiliation domain. Together, the findings from this and prior studies suggest that not only higher-level but also lower-level chronic offenders are important candidates for preventive intervention work in order to avoid longer-term detrimental outcomes of their engagement in antisocial and criminal behaviors.

It must be noted that the observed effects of arrest trajectories on the early adult outcomes were fairly small. Predictive power was somewhat limited, with the exception of antisocial partnering and deviant peer affiliation, thus indicating that the majority of early adult variation in the considered outcomes was accounted for by other influences. Although perhaps disappointing from the perspective of developmental theories of crime, this also implies a positive message. On the basis of the findings from this study, it can be concluded that differing chronic offender pathways do not fully predetermine levels of psychosocial functioning in the early adult years. Other life experiences or influences, such as romantic partner influences, chance effects, and individual self-regulation, may also play a role.

A final noteworthy finding concerns the predictive effects of arrest trajectories in the intimate partner domain. Consistent with two other studies (Moffitt et al. 2002; Nagin et al. 1995), our findings indicated some continuity of antisocial behavior in the intimate partner domain for chronic offenders in the form of domestic abusive behaviors. Going beyond prior research, our findings also documented that chronic offenders are at increased risk for

having antisocial partners in adult years. After controlling for early antisocial behavior and adolescent hostility toward women, however, this effect became nonsignificant. This suggests that this association is largely the consequence of early developmental factors, particularly early antisocial behavior, and that chronic arrest patterns do not add further risk. This is in keeping with the view that risk for aggression toward a partner is related to impulsive, undercontrolled behavior and conduct problems that develop in childhood. Further developmental failure, as indexed at least by arrests, does not appear to add further risk.

Some caveats are warranted in interpreting the findings from this study. First, the study was conducted with data from a mostly Caucasian sample of at-risk, young men. The findings from this study may not generalize to samples from the general population, special populations such as incarcerated offenders, offenders from other ethnic groups or sociocultural contexts, and female offenders. It is imperative that the effects of sample diversity are studied more closely. Second, the sample size was relatively small, limiting statistical power. This applies in particular to the small group of high-level chronic offenders. Cross-validation of the current findings, especially for the high-level chronic offender trajectory group, with larger samples is consequently critical. Third, the outcome measures used in this study did not involve clinical diagnoses, and it remains to be seen if findings would be similar in such cases (especially for the substance use outcome domain). Fourth, identification of arrest trajectories was based on right-censored data, which is necessarily the case when studying ongoing behaviors. Other research has shown that length of follow up can affect identified trajectories of crime (Eggleston, Laub, and Sampson 2004). We cannot rule out the possibility that this has introduced some bias for comparisons involving men in the High-Level Chronic group, whose criminal behavior was still unfolding at the end of the observation period. These study limitations are offset by several strengths, including the long-time span from late childhood through the late 20s, with annual assessments of the men, usage of sound measures garnered from multiple informants/ methods, and the very little likelihood that the observed prospective associations with arrest trajectory groupings are exacerbated by shared measurement variance. From an applied perspective, the findings from this study suggest that it would be shortsighted to concentrate all prevention and intervention efforts just on the High-Level Chronic offenders, as Low-Level Chronic offenders also evidenced adverse outcomes of offending in several early adult domains. This subgroup, which was overlooked in the original versions of dual developmental taxonomies of antisocial behavior (e.g., Moffitt 1993), deserves more attention in future prevention research.

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Endnotes

[1] In the coercion model, criminal behavior and its childhood precursors (i.e., antisocial behavior) are conceptualized as complex outcomes of a history of reinforcing exchanges with the immediate social environment. This process starts within the family context but takes place in several stages and settings across the life course. The most important mechanism for learning antisocial behavior within the family context is hypothesized to be negative reinforcement, wherein a young child learns to use aversive responses (termed "coercive behaviors") to terminate the aversive behaviors of parents and siblings (Patterson 1982). According to the coercion model, these coercive interaction styles are to a large extent "overlearned" and consequently performed more or less automatically in differing settings in later stages of the life course (Patterson et al. 1992).

[2] In its current version, SAS Proc Traj does not accommodate prediction from trajectory groups to outcome measures while controlling for the effects of various other variables on the given outcome. Thus, participants were assigned to arrest trajectory groups on the basis of maximum posterior probability rule, and regression models were estimated using the statistical software program SPSS 16.0. As described above, this analytical approach was appropriate because of the high classification quality of the three arrest trajectory class model solution. As a precaution, we nevertheless repeated all regression models using the randomized class assignment procedure developed by Bandeen-Roche, which accounts for class membership uncertainty (for details, see Bandeen-Roche et al. 1997, 1999). In general, the results of the regression analyses were similar for both methods of class assignment, with the exception of the predictive effects of Contrast 2, which were substantially

diminished with randomized class assignment. This demonstrates that the predictive effects for Contrast 1 were robust and unaffected by the chosen class assignment method; whereas the effects found for Contrast 2 were less robust

.

[3] Assigned values for Contrast 1 were: High-Level Chronic = .5, Low-Level Chronic = .5, Rare Offenders = -1. Values for Contrast 2 were: High-Level Chronic = 1, Low-Level Chronic = -1, Rare Offenders = 0.

[4]The sample size for the three outcomes antisocial partnering, psychological aggression toward a partner, and physical aggression toward a partner was reduced to n = 181 because not all of the OYS men had a steady intimate partner during this assessment period. This subgroup did not differ significantly on any of the predictors used in the three regression models from the men with missing data according to parametric and nonparametric tests (all p > .05).

[5] One anonymous reviewer posed the question whether the deleterious outcomes (e.g., low educational attainment, unemployment periods) could have occurred as a result of incarceration and other forms of custody rather than trajectory group membership. Note that time spent in jail, prison, or juvenile detention and correction facilities (hereafter summarily referred to as "custody") was statistically accounted for in the trajectory modeling analyses via the exposure- time parameter. Furthermore, unemployment periods resulting from disability, being a student, or incarceration were excluded during the calculation of the "months unemployed" outcome measure (see Table 1). Descriptive information shows the following distribution of custody times over the 17-year period (equaling a total of 884 weeks) from ages 10/11 to 26-27 years: Out of 19 *high-level chronic offenders*, three were 0 weeks in custody, 3 spent 1-26 weeks in custody, 3 spent 27-52 weeks in custody, 3 spent 53-104 weeks in custody, 4 spent 105-208 weeks in custody, and the final 3 spent more than 208 weeks in custody. Out of 42 *low-level chronic offenders*, 13 were 0 weeks in custody, 20 spent 1-26 weeks in custody, 3 spent 27-52 weeks in custody, 4 spent 53-104 weeks in custody, and the final 2 spent 105-208 weeks in custody. On the basis of these distributions and also the timing of most of the custody periods (note that in most cases they were not spent consecutively in one single block but occurred here and there over the 17-year period) in the men's life course, it is not very likely that the deleterious effects on the outcomes were primarily the result of custody placements.

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The Influence of Nondiagnostic Information and Victim Stereotypes on Perceptions of Guilt

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Abstract: *Recent research has revealed that increasing nondiagnostic information about victims in rape trial scenarios decreases guilty verdicts. This finding contradicts several existing theoretical positions that predict nondiagnostic information about a target is beneficial to that target. Three experiments are presented to resolve this incongruity. It is hypothesized that greater nondiagnostic victim information can increase use of victim stereotypes. As such, we predicted that increasing nondiagnostic victim information decreases the number of guilty verdicts in trials featuring strongly negative victim stereotypes (e.g., rape trials), but not trials without strongly negative victim stereotypes (e.g., assault trials). In Study 1, nondiagnostic victim information in an assault trial scenario led to more—rather than fewer—guilty verdicts. In Study 2, increasing nondiagnostic victim information led to increased negative stereotyped perceptions in a rape trial scenario but not an assault trial scenario. In Study 3, nondiagnostic information showed no difference on the impact on the perception of male versus female victims of assault. Finally, we demonstrate the mechanisms by which nondiagnostic target information alters trial verdicts.*

Keywords: assault trials, nondiagnostic information, victim stereotypes.

INTRODUCTION

During the course of a jury trial, many factors can sway the opinions of jurors. Some factors are obvious and intuitive (e.g., eyewitness confidence, opinions of other jurors, the presence of a videotaped confession), while other influential factors are not obvious or intuitive (e.g., the order in which information is presented, jury size; Brewer and Wells 2006; Horowitz and Bordens 2002; MacCoun 1989). In the present research, we examined the relationship between perceptions of guilt and one not-so-obvious factor, the presence of nondiagnostic information about the parties involved in the trial.

Nondiagnostic Information

Diagnostic information has been defined as "information relevant to the judgment in question" (Kunda and Thagard 1996:291). Thus, *nondiagnostic* information is information *irrelevant* to the judgment in question, and in a criminal trial, nondiagnostic information would be information irrelevant to the defendant's guilt.

Nondiagnostic information about a target can take many forms (e.g., demographic information, visual information). Under direct observation, people give off a wealth of information by their actions, whether through their tone of voice, body posture, or facial expressions. Observers use this information to judge a target's personal

attributes even when the observer does not have the luxury of viewing the target for extended periods of time or across multiple situations (Ambady, Bernieri, and Richeson 2001). In many cases, salient features of the target, such as bodily cues that trigger stereotypes, are also used to form impressions. Initial impressions based on such limited information can be generated quickly and can also be quite rigid (Ambady et al. 2001).

Written, descriptive information can be used to create a similar effect. Researchers (Efran 1974; Landy and Aronson 1969) have shown that defendants in trial scenarios who are described positively (e.g., attractive, professional) are less likely to be found guilty, whereas targets who are described negatively (e.g., unattractive, manual laborer) are more likely to be found guilty. Even though this descriptive information is irrelevant to the guilt or innocence of a target, these results are not surprising, since impression formation studies have shown that observers judge and respond to targets with enviable characteristics more positively across a variety of situations (Eagly et al. 1991; Uleman, Newman, and Moskowitz 1996).

What happens, though, when the descriptive information is unrelated to the case at hand *and* is not obviously positive or negative? It is thought that nondiagnostic information about a target can also serve to increase the salience of that target. Basically, any method that draws more attention to a particular target increases that target's salience (Fiske and Taylor 1991). This has been accomplished by using a spotlight, central positioning, repetition of information, or by showing one target more on a videotape (i.e., providing more nondiagnostic visual information; Brown, Brown, and Zoccoli 2002; Eisen and McArthur 1979; Fiske and Taylor).

Salience, in turn, can lead observers to view a target in a more positive light and rate the target more favorably on a variety of dimensions (Brown et al. 2002; Eisen and McArthur 1979). Therefore, in a trial, one would expect that an increase of neutral, nondiagnostic target information would increase the tendency to view a target positively. Specifically, the hypothesis predicted by this account would be that, in a criminal trial, nondiagnostic information about an alleged victim leads jury members to have positive perceptions of that victim and, perhaps, provide more guilty verdicts. Conversely, nondiagnostic information about the defendant could instigate positive perceptions about the defendant and lead to fewer guilty verdicts.

Nondiagnostic information does not always produce the described effect, however. For instance, showing video footage of an African-American crime suspect can lead to negative perceptions of the suspect (Ratcliff et al. 2010). The results of a pair of recent experiments (Rempala and Bernieri 2005; Rempala and Geers 2009) also clearly conflict with this hypothesis. In these studies, the authors attempted to alter salience by providing varied amounts of written biographical details about two targets in a rape trial. Specifically, both studies found that when participants read a vignette of a rape trial, increasing the amount of neutral, nondiagnostic, biographical information about the alleged victim decreased perceptions of defendant guilt. Further, reducing available information about the defendant in the case strengthened this victim-information effect. The latter study (Rempala and Geers) replicated the results of the first and examined two plausible mechanisms for this result: target positivity and perceptions of causal responsibility. Their results showed that increasing nondiagnostic victim information led participants to view the victim negatively and more causally responsible for the event. Both pathways mediated attribution of guilt, although perceived causality was more consistent.

Justice Motivation Hypothesis

Rempala and Geers (2009) discussed two competing hypotheses as to why the information about the alleged victim reduced target positivity and increased perceptions of causal responsibility. First, according to the Justice Motivation literature, when observers witness a victim suffering and are unable to alleviate the suffering, they tend to blame the victim so as to decrease the discomfort they are experiencing (i.e., if we perceive the target as deserving his or her fate, we feel less distress; Lerner 2003). Since the alleged rape described in the Rempala and Geers study took place in the past, participants could not alleviate the suffering so they may have increased victim blame in order to reduce discomfort. In this account, making the victim more vivid with the additional information made the suffering more salient, motivating the observers to reduce their discomfort by shifting blame to the victim.

Although Rempala and Geers (2009) did not directly test this hypothesis, several of their results were inconsistent with this view. Specifically, threat and perceived similarity between target and observer play a role in Justice Motivation (Shaver 1970; Lerner and Simmons 1966), such that those who witness a suffering target are motivated to not only blame the target, but perceive the target as being dissimilar. That way, observers feel protected from suffering the same fate. If Justice Motivation was a major factor in that study, nondiagnostic target information should have impacted perceptions of similarity between observer and target, but this was not the case. Also, the rape victim in the study was female, and since rape is a more common concern for women (Bohner et al. 1993), Justice Motivation would suggest that the female participants would feel more threatened and utilize the nondiagnostic information to a greater extent than the male participants. However, female participants, compared to males, did not blame the alleged

victim more and were not differentially affected by target information. Therefore, if threat drives a tendency toward victim blame, the Rempala and Geers study showed no evidence of that.

Victim Stereotype Hypothesis

An alternative explanation proposed by Rempala and Geers (2009) involves the possibility of nondiagnostic information activating existing stereotypes (hereafter referred to as the Victim Stereotype Hypothesis). In the stereotype literature, researchers initially predicted that nondiagnostic information would have a "dilution effect" and decrease the impact of categorical stereotypes (Nisbett, Zukier, and Lemley 1981). However, Peters and Rothbart (2000) discovered that the nondiagnostic information could affect stereotypic perceptions differently, depending on whether the information was typical of an individual in a given category. That is, even if the information is not directly related to a behavior in question, if it reinforces a stereotype, the information can make the behavior in question seem more typical of a person. Conversely, if the information runs counter to a stereotype, it can make the behavior seem less typical. In a legal setting, this phenomenon might manifest itself as follows: a defendant's characteristics fit the stereotype of a person who committed a particular crime, so the alleged behavior would be seen as more typical of the defendant (i.e., he would be seen as more likely to have performed the behavior).

As for truly nondiagnostic (i.e., irrelevant to the judgment and typicality of target) information, there is only minimal support for the idea that this sort of target information creates a dilution effect (Peters and Rothbart 2000). In fact, one study proposed that truly nondiagnostic target information might activate stereotypes by making the target more "judgeable" (Yzerbyt et al. 1994). That is, observers feel that since they have more information about a target, they are more familiar with the target and more comfortable judging that target, independent of the quality of that information. Schneider and Blankmeyer (1983) reported a similar result in a study where they identified targets as either introverts or extroverts, then made half the targets more salient. Participants judged the salient targets as fulfilling the prototypical traits of the identified categorization more than non-salient targets.

Rempala and Geers (2009) provided no indication whether the nondiagnostic target information was typical of the target category. Generally speaking, however, the research design utilized in that study lent itself to the use of stereotypes by participants. First, Taylor and others (1978) determined that making an individual's group membership salient increased the likelihood that the individual would be perceived in a stereotypic fashion. With group membership established, if the information provided is truly nondiagnostic, the observer still processes the information based on category (Neuberg and Fiske 1987). In the Rempala and Geers study, targets were immediately identified as either a defendant or an alleged victim in a rape trial (as would be the case in most trial scenarios). Similarly, when using trial scenarios, group-relevant, nondiagnostic information has been found to impact perceptions of guilt in the direction of existing stereotypes when the evidence is ambiguous (Ugwuegbu 1979). In the Rempala and Geers study, the evidence was ambiguous: the physical evidence was minimal and participants had to rely on the conflicting statements of the defendant and alleged victim.

Thus, given the details of the scenario provided by Rempala and Geers (2009), greater amounts of nondiagnostic information about a victim could have activated victim stereotypes. That is, after the target had been identified as an alleged victim, the nondiagnostic information served to consign her to a stereotypic category. In terms of the Rempala and Geers findings, there are many stereotypes associated with rape victims, and perhaps increasing target salience activated specific beliefs dealing with causality (e.g., only sexually promiscuous women are raped) and guilt (e.g., alleged rape victims are lying for attention; Deitz et al. 1982), which decreased guilty verdicts.

Although plausible, at the moment, the Victim Stereotype Hypothesis remains untested. Exploration of this hypothesis would assist in identifying exactly how nondiagnostic information alters verdicts. Neuberg and Fiske (1987) asserted that, unlike instances when group membership is clearly established, in instances when an observer lacks an overarching category label for a target, incoming information will be processed in an individuated, rather than categorical manner. A similar argument could be made for weak category labels (i.e., those that have few strong stereotypes associated with them) versus strong category labels. This hypothesis raises the novel possibility that the influence of nondiagnostic information should differ markedly based on the target stereotypes evoked by the trial. For example, in a trial less laden with stereotypic assumptions about the targets, nondiagnostic information about the victim should not decrease perceptions of defendant guilt, as it does for a rape trial.

Investigating the impact of nondiagnostic information is important for trials where the victim serves as a witness. In the United States, alleged rape victims frequently serve as the primary witness in rape trials, and the experience is traumatic enough to earn the name "The Second Rape" (Madigan and Gamble 1991). The result of the previous research (Rempala and Bernieri 2005; Rempala and Geers 2009) questions the wisdom of prosecutors insisting on this strategy in effort to improve their case. It is now vital to test the universality of this phenomenon.

The Current Research

Four studies were conducted to account for the previous finding that greater nondiagnostic victim information increases guilty verdicts. The first study is a pilot study in which we developed an appropriate comparison scenario for the rape trial scenario used in the Rempala and Geers (2009) study. Study 1 used an identical methodology as the Rempala and Geers study to see if varying target information has the same effect in an assault trial as in a rape trial. A failure to replicate would support the Victim Stereotype Hypothesis. Study 2 sought to directly examine the relationship between nondiagnostic information and stereotyped perceptions. Study 3 sought to compare the effect of nondiagnostic information on female versus male victims.

PILOT STUDY

Overview

In this study, we sought to create an assault trial scenario comparable to the rape trial scenario used in the Rempala and Geers (2009) study. While constructing the scenario, we first had to determine whether the nondiagnostic information used was typical of the target, and whether there are significantly more negative stereotypes associated with rape victims than assault victims. The goal was to use equivalent information but in a qualitatively different kind of criminal trial.

Method

Participants

A total of 76 undergraduate students participated in the Pilot Study. 53 participants (35 females, 17 males, and 1 individual who did not indicate gender) helped to verify that there are more stereotypes about an alleged victim in a rape trial than an alleged victim in an assault trial. Another 23 participants (14 females and 9 males) helped to determine the typicality of the victim information we planned to use in Study 1.

Testing Availability of Victim Stereotypes

Before constructing the scenario, we tested for differences in the total stereotypes and negative stereotypes associated with a particular type of victimization. We asked participants to list characteristics typical of people who engaged in six different activities, including "a woman who accuses a man of rape" and "a man who accuses another man of assault." The four additional (filler) activities were "a person who runs for president," "a man who goes streaking at a sporting event," "a person who smokes marijuana," and "a woman who joins the Marines." The instructions stated, "Indicate at least one characteristic per person described, but include enough to form a representative description of the type of person who is normally involved in these activities."

Four research assistants (α = .94) rated the listed characteristics on a three-point scale (1 = "generally negative," 3 = "generally positive"). We defined a generally positive characteristic as something complementary (e.g., "brave") or enviable, while a generally negative characteristic was something insulting (e.g., "wimp") or unenviable.

Testing Information Typicality

We also examined whether the nondiagnostic target information to be used in the scenario (see Appendix) was also not typical, because the typicality of nondiagnostic information is thought to mediate its impact on target perception (Peters and Rothbart 2000). The goal was to find nondiagnostic target information roughly equal in typicality to the nondiagnostic target information used in the Rempala and Geers (2009) study.

Participants read through two lists of characteristics. For the first set of characteristics, they indicated how typical each characteristic was of a male assault victim. We included characteristics we planned to use in the Victim Information Present conditions in Study 1 (i.e., "single," "wears nylon jackets," "drinks Budweiser beer," "works as a retail manager," "socializes with co-workers," and "is 25 years old"). For each characteristic, participants circled either "Typical," "Atypical," or "Unrelated."

Participants completed a similar task for the second set of characteristics, which referred to a female rape victim. We included the characteristics used in the Victim Information Present conditions in the Rempala and Geers (2009) study (i.e., "attends a Methodist Church," "is from Colorado," "works at a retail store," "has a boyfriend," "is a marketing major," and "is 20 years old"). These characteristics were examined to establish congruence in the typicality of the nondiagnostic target information used in the proposed assault trial and the target information used in the Rempala and Geers study.

Results and discussion

Victim Stereotypes

Overall, "woman who accuses a man of rape" generated the third highest mean for total stereotypes (M = 3.19, SD = 1.65) and the second highest mean for negative stereotypes (M = 2.23, SD = 1.41) (behind "person who smokes marijuana"). Conversely, "man who accuses another man of assault" generated the lowest mean for total stereotypes (M = 2.07, SD = .91) and the third highest mean for negative stereotypes (M = 1.61, SD = 1.11). As predicted, in paired samples t-tests, the rape target generated significantly more total stereotypes than the assault target, t (52) = 5.15, $p < .01$, and significantly more negative stereotypes, t (52) = 3.22, $p < .01$.

Information Typicality

For the assault victim, five of six characteristics used in the scenario for Study 1 received more labels of "Unrelated" than either "Typical" or "Atypical." We conducted chi-square analyses, and for "wears nylon jackets," χ^2 (2) = 20.96, $p < .01$, "works as a retail manager," χ^2 (2) = 25.13, $p < .01$, and "is 25 years old," χ^2 (1) = 5.26, $p < .05$, these differences were all significant. For "drinks Budweiser beer," χ^2 (2) = 5.83, $p < .06$, the difference was marginally significant. For "socializes with co-workers," the difference was nonsignficant ($p = .74$), but nine participants considered the characteristic unrelated, compared with six who considered it typical and eight who considered it atypical.

The lone characteristic not identified as unrelated was "single." 13 participants judged it as typical, seven judged it as unrelated, and three judged it as atypical, χ^2 (2) = 6.61, $p < .05$. This result was significant. However, when the "Typical" and "Unrelated" categories were compared by themselves, there was no significant difference.

For the rape victim, five out of the six characteristics used in the Victim Information Present scenarios for the Rempala and Geers (2009) study received more labels of "Unrelated" than either "Typical" or "Atypical." A chi-square test was used to analyze the results, and for all five, "attends a Methodist church," χ^2 (2) = 17.041, $p < .01$, "is from Colorado," χ^2 (1) = 19.17, $p < .01$, "works in a retail store," χ^2 (2) = 18.09, $p < .01$, "has a boyfriend," χ^2 (2) = 9.48, $p < .01$, and "is a marketing major," χ^2 (2) = 25.39, $p < .01$, the difference was significant.

The lone characteristic not identified as unrelated was "is 20 years old," which was identified as "Typical" of rape victims, χ^2 (2) = 9.74, $p < .01$. Thirteen participants judged the characteristic as typical, nine judged it as unrelated, and one judged it as atypical. This result was significant. However, when only the "Typical" and "Unrelated" categories were compared, there was no significant difference between the two.

Thus, the Pilot Study supported constructing the intended scenario (see Appendix). Participants produced fewer stereotypes for assault victims than for rape victims. As for the typicality of the nondiagnostic information, for both the information used in the Rempala and Geers (2009) rape scenario and the information for the assault scenario in Study 1, five out of six items leaned toward "Unrelated," while one leaned toward "Typical."

STUDY 1

Overview

Participants read one of four scenarios describing an assault trial (see Appendix). When finished, participants judged whether the defendant was guilty or not guilty (a dichotomous measure) and how guilty the defendant was (an ordinal measure). They also provided ratings that indicated their perceptions of causal responsibility and target positivity for each target (alleged victim and defendant). The four scenarios were identical except for the amount of neutral, nondiagnostic, biographical information provided about the alleged victim and the defendant. We manipulated defendant information along with our main independent variable, victim information, in Study 1, as prior studies have found defendant information to be an important moderator of this effect (e.g., Rempala and Geers 2009). Specifically, the effect of victim information has been most pronounced in the extreme information conditions (i.e., where information is provided about the victim and not the defendant, and vice versa).

We predicted that nondiagnostic victim information would not increase the perceived guilt of the alleged victim, as has been shown in studies utilizing a similar format but with a rape trial scenario (e.g., Rempala and Geers 2009). In fact, based on the impact of nondiagnostic information on targets in non-stereotypic situations (e.g., Brown et al. 2002), the information may benefit the alleged victim (i.e., reduce perceptions of guilt). Finally, we anticipated that perceptions of causality and positivity would at least partially mediate any impact of nondiagnostic information on verdicts.

Method

Participants and Procedure

A sample of 114 undergraduate participants (86 females and 28 males) were told to imagine themselves as jurors in a trial as they read a one-page, fictitious account of an assault (see Appendix). The scenario described the case of Andrew Marshall, who became involved in an altercation at a local bar with a young man named Roger Carlson. According to both the alleged victim and defendant, the two argued about the football game playing on TV. The defendant claims that the injuries (minor brain damage) that followed resulted from self-defense, whereas the alleged victim claims that attack was unprovoked. After reading the facts of the case, participants provided a verdict and target ratings. We attempted to use methods that paralleled those used by Rempala and Geers (2009).

Information Manipulations

We created two levels of victim information for the written scenario. In the Victim Information Present condition, participants learned that the alleged victim was a 5'9", 185-pound, 25-year-old man from Fort Collins, Colorado, who was an assistant manager at Office Max. The scenario also stated that he was single, watching the football game with co-workers, drinking Budweiser, and wearing a navy blue, nylon jacket. In the Victim Information Absent condition, participants merely received his physical dimensions and were told that he was

watching the game and drinking beer. This additional information served to make the target more individuating and vivid to participants but was irrelevant to the assault issue at hand.

We also manipulated the amount of nondiagnostic defendant information participants received. The two levels of defendant information corresponded in content to the victim information (i.e., the defendant was a 5'10", 175-pound male. He was a 28-year-old Century Twenty-One agent from Denver who was single, watching the game with his brother, drinking Miller Lite, and wearing a brown leather coat.).

Judgments

After reading the scenario, participants provided two separate evaluations of guilt: a verdict of "guilty" or "not guilty" (a dichotomous measure) and using a Likert-scale, they rated how guilty the defendant was (1 = "not at all guilty," 7 = "completely guilty").

Participants also answered several items having to do with target causality, including: the degree to which the defendant initiated the action in the scenario (1= "not at all," 7 = "to a large degree"), how responsible the defendant was for the action (1 = "not at all responsible," 7 = "extremely responsible"), the degree to which the action was due to circumstances beyond the defendant's control (1 = "not at all," 7 = "to a large degree"), and the degree to which the alleged victim caused the defendant to behave in the manner he did (1 = "not at all," 7 = "to a large degree"). The last two items were reverse-scored. Participants also made a similar set of judgments about the alleged victim. For that set of ratings, the first two items were reverse-scored. Finally, the victim and defendant causality items were combined into a composite Causality index.

We conducted a reliability analysis on this composite Causality score, and although the alpha was slightly low (α = .64 for the eight items), since this was a reliable combination in the Rempala and Geers (2009) study, and since the victim and defendant causality scores from this sample showed a strong negative correlation with one another (r = -.38, p < .01), we deemed this value acceptable. Combining the two measures is also conceptually useful: if one is assigning blame for an event, assigning more blame to one target implies assigning less blame to other targets, especially in a trial featuring a dichotomous verdict. A high score on this variable indicated a greater perception of defendant causality, while a low score indicated a greater perception of causality on the part of the alleged victim.

Participants also rated how likeable the defendant was (1 = "not at all likable," 7 = "very likable") and how good a person the defendant was (1 = "bad person," 7 = "good person"). These last two items were combined into a Defendant Positivity index (r = .45, p < .01). The participants made a similar series of ratings about the alleged victim, and these ratings were combined into a Victim Positivity index (r = .48, p = .01). Victim Positivity and Defendant Positivity were kept separate because they did not significantly correlate (p = .60) and the four items had a low alpha when combined (α = .46). Also, they were kept separate in the rape trial scenario used in the Rempala and Geers (2009) study, and we wanted to compare the mediation findings between the two studies. Finally, separating them makes sense conceptually: unlike the Causality variable, by viewing one target in a positive light, an observer does not automatically perceive a second target negatively.

Results

Judgments of Guilt

We conducted chi-square analyses on the dichotomous verdicts across the information conditions (see Table 1).

Table 1. ***Percentage of Guilty Verdicts by Information Condition (Study 1)***

	Victim Information		
Defendant Information	Present	Absent	Mean %
Present	75.9 % [ab] (n = 29)	55.2 % [b] (n = 29)	65.5 %
Absent	88.9 % [a] (n = 27)	72.4 % [ab] (n = 29)	80.4 %
Mean %	82.1 %	63.8 %	

Note: Cells with different superscripts differ significantly from each other. Higher percentages indicate more guilty verdicts.

The chi-square comparing the two Victim Information conditions was significant, χ^2 (1) = 4.85, $p < .05$, such that greater Victim Information resulted in more guilty verdicts. Conversely, the chi-square comparing the two Defendant Information conditions was marginally significant, χ^2 (1) = 3.17, $p < .07$, such that greater Defendant Information resulted in fewer guilty verdicts.

The pattern of results was such that the category that produced the lowest percentage of guilty verdicts was the Victim Information Absent-Defendant Information Present condition (55.2%), and the category that produced the highest percentage of guilty verdicts was the Victim Information Present-Defendant Information Absent condition (88.9%). This difference was significant, χ^2 (1) = 7.79, $p < .01$. Thus, consistent with the Victim Stereotype hypothesis, instead of being detrimental to the targets, nondiagnostic information actually appeared to benefit them.

We analyzed the ordinal, degree of guilt measure (i.e., "How guilty is the defendant?") using a 2 x 2 x 2 ANOVA, with Victim Information (VI), Defendant Information (DI), and Participant Gender (Gender) as the predictors (see Table 2). Although we made no specific hypotheses about the role of Gender, we included it because it significantly predicted ordinal guilt ratings in the rape trial studies (Rempala and Berniri 2005; Rempala and Geers 2009). In the current study, Gender significantly predicted Degree of Guilt, F (1, 106) = 14.17, $p < .01$, $r = .34$, such that females rated the defendant as being more guilty (M = 5.24, SD = 1.70) than did males (M = 3.86, SD = 1.51). DI was also a significant predictor, F (1, 106) = 6.75, $p < .05$, $r = .24$, such that the DI Present condition (M = 4.47, SD = 1.89) yielded lower Degree of Guilt ratings than did the DI Absent condition (M = 5.36, SD = 1.48). VI was also a significant predictor, F (1, 106) = 4.03, $p < .05$, $r = .19$, with the VI Present condition yielding higher Degree of Guilt ratings (M = 5.25, SD = 1.53) than the VI Absent Condition (M = 4.57, SD = 1.90). There were no significant interaction effects.

When comparing the individual information conditions, as with the dichotomous verdicts, there was a significant difference between the VI Present-DI Absent (M = 5.59, SD = 1.22) and the VI Absent-DI Present (M = 4.00, SD = 1.96), t (54) = 3.62, $p < .01$.

Next, we tested each of the three possible mediators (Causality, Defendant Positivity, and Victim Positivity) using the path-analysis procedure outlined by Kenny, Kashy, and Bolger (1998). In each of the cases, we used VI, DI, and Gender as the original predictors. First, we will discuss the dichotomous guilt measure of guilt, followed by the ordinal guilt measure.

Test of Possible Mediators

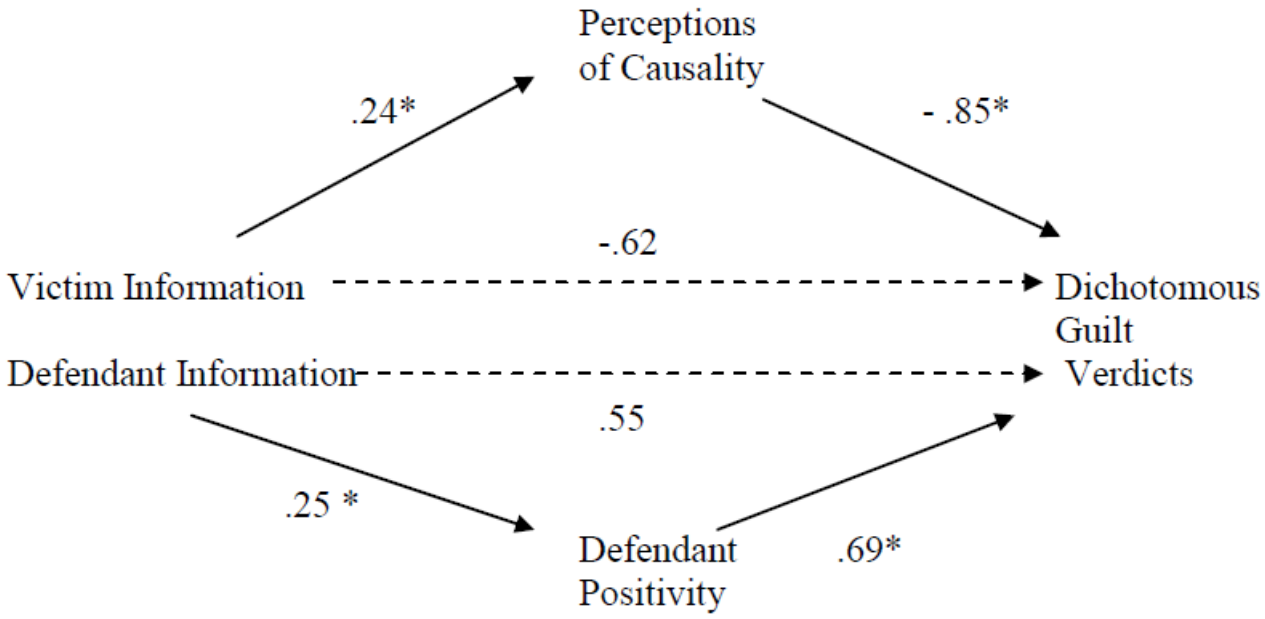
Dichotomous guilt verdicts. In order to examine the relationship between VI, DI, and Gender and guilt verdicts, we conducted a logistical regression (see Figure 1). Gender (Wald [df = 1, N = 114] = 14.73, B = -2.02, $p <$ .01) and DI (Wald [df =1, N = 114] = 4.27, B = 1.03, $p <$ .05) significantly predicted dichotomous guilt verdicts, such that females were more likely than males to find the defendant guilty and greater DI was associated with fewer guilty verdicts. VI was also a significant predictor (Wald [df = 1, N = 114] = 3.94, B = -.97, $p < .05$), such that higher VI was associated with more guilty verdicts (*Note*: verdicts were coded 1 = "Guilty," 2 = "Not Guilty," so a direct relationship with perceptions of guilt actually would produce a negative B value).

Table 2. ***Mean ratings for Degree of Guilt by Information Condition (Study 1)***

	Victim Information		
Defendant Information	Present	Absent	Mean
Present	4.96 [ab] (SD = 1.75)	4.07 [b] (SD = 1.96)	4.52 (SD = 1.90)
Absent	5.59 [a] (SD = 1.22)	5.04 [ab] (SD = 1.73)	5.32 (SD = 1.50)
Mean	5.27 (SD = 1.53)	4.54 (SD = 1.90)	

Note: Cells with different superscripts differ significantly from each other. Higher values indicate greater perceived defendant guilt.

Figure 1. ***Path Analysis for Dichotomous Guilt Judgments (Study 1)***



Note: Coefficients are written in *B* weights (except for the coefficients predicting Perceptions of Causality and Defendant Positivity, which are written in standardized beta weights).
* $p < .05$

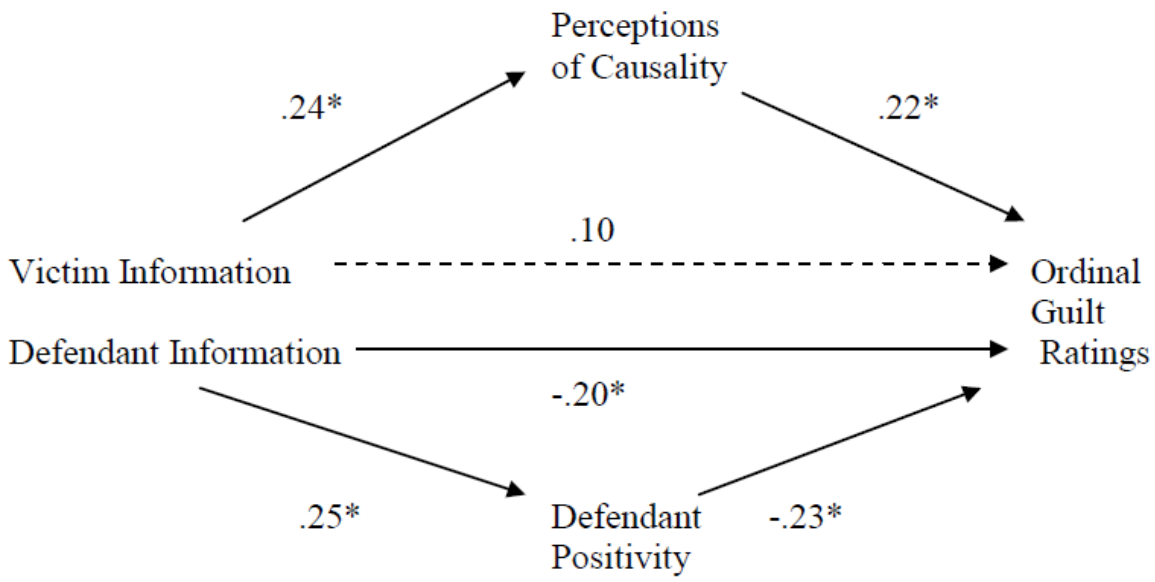
In attempt to mediate this effect, we conducted linear regressions from VI, DI, and Gender to the three proposed mediators (Causality, Defendant Positivity, and Victim Positivity). Significant paths were found from VI to Causality, t (113) = 2.55, β = .24, $p < .05$, and from DI to Defendant Positivity, t (113) = 2.72, β = .25, $p < .05$. There were no significant paths to Victim Positivity, so it will not be discussed further.

We then conducted logistic regressions from the mediators to the dichotomous guilt verdicts. Causality significantly predicted guilt verdicts (Wald [df =1, N = 114] = 12.71, B = -1.07, $p < .01$), such that a higher Causality score (i.e., perceiving the defendant as causally responsible) produced more guilty verdicts. Defendant Positivity was also a significant predictor, (Wald [df =1, N = 114] = 12.24, B = .76, $p < .01$), such that higher Defendant Positivity scores produced fewer guilty verdicts.

When we simultaneously loaded Causality into the regression with the predictor variables, Gender (Wald [df =1, N = 114] = 15.04, B = -2.21, $p < .01$) and Causality (Wald [df =1, N = 114] = 10.05, B = -1.16, $p < .01$) remained significant, while VI and DI became nonsignificant, suggesting full mediation of VI. Similarly, when we loaded Defendant Positivity into the regression with the predictor variables, Gender (Wald [df =1, N = 114] = 16.43, B = -2.37, $p < .01$) and Defendant Positivity (Wald [df =1, N = 114] = 11.95, B = .92, $p < .01$) remained significant, while VI and DI became nonsignificant, suggesting full mediation of DI. We conducted Sobel tests (Sobel 1982) in the individual pathways to see if the mediators carried the influence of the IV to the DV and found that Causality significantly mediated the effect of VI, z = -1.99, $p < .05$, and Defendant Positivity significantly mediated the effect of DI, z = 2.14, $p < .05$.

When we simultaneously loaded VI, DI, Gender, Defendant Positivity, and Causality into a regression to predict guilt verdicts, only Gender (Wald [df =1, N = 114] = 16.11, B = -2.43, $p < .01$), Defendant Positivity (Wald [df = 1, N = 114] = 6.08 B = .69, $p < .05$) and Causality (Wald [df =1, N = 114] = 4.64, B = -.85, $p < .05$) remained significant. This suggests the full mediation of VI and DI. When Sobel tests were conducted on the regression analysis using both mediators, the path from VI to Causality to guilt verdicts was marginally significant, z = -1.65, $p < .10$, as was the path from DI to Defendant Positivity to guilt verdicts, z = 1.83, $p < .07$. Thus,

Figure 2. ***Path Analysis for Ordinal Guilt Ratings (Study 1)***



Note: All coefficients are written in standardized beta weights.
* $p < .05$

Causality and Defendant Positivity successfully mediated the effect of the predictor variables, with Defendant Positivity showing itself to be the slightly more powerful mediator.

Ordinal guilt measure. We also conducted a mediation analysis on the ordinal guilt measure (Degree of Guilt), and it produced results similar to the mediation analysis for the dichotomous measure (see Figure 2). We conducted an initial linear regression from VI, DI, and Gender to the Degree of Guilt measure. VI significantly predicted Degree of Guilt, t (110) = 2.08, β = .18, $p < .05$, such that greater VI was associated with greater defendant guilt, DI was a significant predictor, t (110) = -3.27, β = -.28, $p < .01$, such that greater DI was associated with less defendant guilt, and Gender was a significant predictor, t (110) = 4.07, β = .34, $p < .01$, such that females perceived the defendant as being more guilty than did males.

The path from Causality to Degree of Guilt was significant, t (112) = 4.44, β = .39, $p < .01$, as was the path from Defendant Positivity to Degree of Guilt, t (112) = -4.48, β = -.39, $p < .01$.

When we simultaneously loaded Causality into a regression with the predictors, Gender, t (109) = 4.13, β = .33, $p < .01$, Causality t (109) = 3.94, β = .32, $p < .01$, and DI, t (109) = - 3.08, β = -.25, $p < .01$, remained significant, while VI and DI became nonsignificant, suggesting full mediation of VI. However, when we simultaneously loaded Defendant Positivity into a regression with the predictors, Gender, t (109) = 4.34, β = .34, $p < .01$, Defendant Positivity, t (109) = - 4.02, β = - .33, $p < .01$, and DI, t (109) = -2.37, β = -.19, $p < .05$, remained significant while VI became nonsignificant, suggesting partial mediation of DI. We again conducted Sobel tests on the individual mediation pathways, and found that Causality significantly mediated the effect of VI, z = 2.14, $p < .05$, and Defendant Positivity significantly mediated the effect of DI, z = - 2.25, $p < .05$.

We simultaneously loaded VI, DI, Defendant Positivity, Causality, and Gender into a regression with Degree of Guilt as the dependent variable. DI, t (108) = -2.47, β = -.20, $p < .05$, Defendant Positivity, t (108) = -2.58, β = -.23, $p < .05$, Causality, t (108) = 2.46, β = .22, $p < .05$, and Gender, t (108) = 4.30, β = .33, $p < .01$, remained significant. VI, however, became nonsignificant. When Sobel tests were conducted on the regression analysis using both mediators, the path from VI to Causality to Degree of Guilt was marginally significant, z = 1.77, $p < .08$, as was the path from DI to Defendant Positivity to Degree of Guilt, z = - 1.87, $p < .07$. Thus, once again, Causality and Defendant Positivity successfully mediated the effect of the predictor variables, with Defendant Positivity the slightly more powerful mediator. This despite the fact that Causality fully mediated VI for both measures and Defendant Positivity only partially mediated DI for the ordinal guilt measure. DI was a stronger initial predictor of both the dichotomous

and ordinal measures than VI, providing more of an effect to mediate.

Discussion

The results indicate that nondiagnostic information about a target appeared to benefit that target in the assault case provided, such that greater victim information led to a higher percentage of guilty verdicts and greater defendant information led to a lower percentage of guilty verdicts. These finding provide support for the Victim Stereotype hypothesis in explaining the results of the aforementioned rape trial studies (Rempala and Bernieri 2005; Rempala and Geers 2009), in the sense that the Victim Information = Victim Blame effect went away in trial scenario that featured a target with fewer negative stereotypes associated with his condition.

Also, even though Victim Information and Defendant Information affected both the dichotomous and ordinal guilt measures, they affected observer attributions in fundamentally different ways. Victim Information consistently influenced Perceptions of Causality. With more victim information, participants assigned less causal responsibility to the alleged victim for his plight. The path analyses showed that Perceptions of Causality fully mediated Victim Information's effect on both Degree of Guilt and the dichotomous verdict, as Victim Information became nonsignificant in both of the final regressions. The other path of interest ran from Defendant Information through Defendant Positivity. Greater nondiagnostic Defendant Information led participants to view the defendant in a positive light, which, in turn, yielded less perceived guilt.

Similar to the Rempala and Geers (2009) results, Causality mediated the relationship between Victim Information and perceptions of guilt, which is consistent with the idea of the burden of proof being on the accuser. However, the relationship was in the opposite direction. This fails to support the Justice Motivation hypothesis, which predicted that observers witnessing a suffering target whom they cannot help would be inclined toward victim blame, and that increasing salience would increase blame. Instead, the nondiagnostic victim information made victim blame *less* likely.

There were several other discrepancies between this study and the Rempala and Geers (2009) study, primarily having to do with the role of Defendant Information. In the Rempala and Geers study, Defendant Information had no bearing on either their dichotomous or their ordinal guilt measures. In this study, Defendant Information consistently had an impact, and was consistently mediated by Defendant Positivity. Perhaps, here again, rape stands as a particular case. A rape trial involves many preconceptions, primarily associated with the actions and characteristics of the victim, which may lead observers to look to the victim first to attribute blame. In a relatively novel situation (i.e., someone getting punched in the face at a bar and suffering brain damage), observers may look to both targets for an explanation.

Although the results of this study imply that there is something distinct about rape cases compared to assault cases (specifically, rape victims compared to assault victims) that sets them apart in terms of how nondiagnostic information is used, this still does not mean that nondiagnostic Victim Information increases the strength of existing stereotypes. For that test, another experiment was required.

STUDY 2

Overview

This study examined the effect of the presence of nondiagnostic victim information on victim stereotypes. Using the rape trial scenario utilized in previous studies (e.g., Rempala and Geers 2009) and the assault trial scenario used in Study 1, we examined whether increasing the nondiagnostic information about the victims increased the strength of stereotypic beliefs. Based on the Victim Stereotype Hypothesis, we predicted that increasing nondiagnostic target information would increase the prevalence of stereotypes about alleged rape victims, but not alleged assault victims.

Method

Participants and Design

A sample of 200 undergraduates (61 males and 139 females) read either an assault trial or rape trial scenario that featured either low or high levels of victim information and completed a series of ratings based on the stereotypes listed in the Pilot Study.

This study attempted to determine if nondiagnostic target information increased one's tendency to view a target in those stereotypic terms. Participants read either the assault trial scenario used in Study 1 or the rape trial scenario used in the Rempala and Geers (2009) study. The latter scenario described the case of Rebecca Marshall, a fictitious college student who went to a party and met a young man named Roger Carlson. According to both alleged victim and defendant, the two went for a short walk and started to kiss. The defendant claims that the intercourse that followed was consensual, while the alleged victim claims that it was forced.

For each scenario, we provided one of two levels of victim information. In the assault scenario, the information provided was the same as what was available in the Victim Information Present scenarios in Study 1. For the rape trial scenario, in the Information Present condition, participants were told that the alleged victim was a 5'4", 125-pound, 20-year-old Methodist from Fort

Collins, Colorado, who was majoring in Marketing at Colorado State University, employed at a department store jewelry counter, and had a boyfriend who was attending college out of state. In the Information Absent conditions, participants were merely given the target's physical dimensions.

Ratings of Stereotypic Dimensions

Rape scenario. Using Likert-scales, participants rated the alleged rape victim on six dimensions, based on the most common items listed for "a woman who accuses a man of rape" in the Pilot Study (i.e., the "Testing Availability of Victim Stereotypes" section). They were: "How much stress did the alleged victim experience?" (1 = "no stress," 7 = "a great deal of stress"), "How angry is the alleged victim?" (1 = "not at all," 7 = "to a large degree"), "How frightened is the alleged victim?" (1 = "not at all," 7 = "to a large degree"), "To what degree is the alleged victim motivated by revenge?" (1 = "not at all," 7 = "to a large degree"), "To what degree is the alleged victim motivated by a need for attention?" (1 = "not at all," 7 = "to a large degree"), and "How likely is it that the alleged victim is lying?" (1 = "not at all likely," 7 = "extremely likely"). Each item was analyzed separately.

Assault scenario. Using Likert-scales, participants rated the alleged victim on six dimensions, based on the most common items listed for "a man who accuses another man of assault" in the Pilot Study. The majority of these dependent measures were the same as for the alleged rape victim, except that instead of "To what degree is the alleged victim motivated by a need for attention?" the assault victim scenario featured the item, "How passive was the alleged victim?" (1 = "not at all," 7 = "extremely passive"). Each item was analyzed separately.

Results

For the rape scenario, we found significant differences on two of the six measures. For the item, "How angry is the alleged victim?" participants in the Information Present condition rated the alleged victim as being angrier (M = 5.08, SD = 1.34) than those in the Information Absent condition (M = 4.48, SD = 1.37), t (96) = 2.20, $p < .05$. Similarly, for the item, "To what degree is the alleged victim motivated by revenge?" participants in the Information Present condition rated the alleged victim as being more revenge-driven (M = 3.72, SD = 1.57) than those in the Information Absent condition (M = 3.08, SD = 1.51), t (96) = 2.05, $p < .05$. The other four t-tests were not significant. However, except for the question, "How likely is it that the alleged victim is lying?" scores for the Information Present condition exceeded those in the Information Absent condition.

For the assault scenario, there were no significant differences between the Information Present and the Information Absent conditions on any of the six dependent measures. Also, mean values for three of the six measures were higher in the Information Absent condition than in the Information Present condition (the items being "How much stress did the alleged victim experience?" "How frightened was the alleged victim?" and "How passive was the alleged victim?").

Discussion

We hypothesized that increasing the nondiagnostic information about the alleged victim in a rape trial scenario would also increase stereotyped beliefs about her. Although the information disparity led to only two significant increases, one could argue that these variables (i.e., anger and revenge) were the two most important when addressing causal responsibility; that is, an angry, revenge-driven alleged victim would likely be a vindictive alleged victim. Both characteristics are generally associated with a motivation to initiate aggressive action (as opposed to, say, anxiety, which leads to withdraw behaviors). In addition, five of the six sets of scores in the rape scenario were in the predicted direction. Overall, these findings are consistent with the idea that nondiagnostic information can activate negative stereotypes in rape trials, particularly stereotypes associated with causality. Conversely, the assault trial scenario, which is associated with fewer available stereotypes and fewer negative stereotypes, yielded no effect for information on any of the six dependent measures.

Despite attempts to maintain informational equivalence, there is one glaring problem with comparing the two scenarios used (rape versus assault): the genders of the alleged victims are different, leaving us unable to tell whether gender of the alleged victims or the nature of the victimization is leading to the increased use of stereotypes. This cannot be solved simply by changing the gender of the targets and using the same scenarios (i.e., scenarios featuring a man who gets date-raped and a woman who gets into a fistfight over a football game), because the bizarre nature of those situations would likely dwarf any effect of nondiagnostic information on participant perceptions of the victim. In some respects, changing target gender would fundamentally alter the dynamic of the scenarios. For example, in the assault case, the male defendant's assertion of self-defense would be less credible if he had punched a woman in the face. Thus, we attempted to create another scenario, this time featuring a victimization that could befall a man or woman equally.

STUDY 3

Overview

In this study, participants read a brief scenario describing a vehicular assault case. This time, we varied both the amount of nondiangostic victim information available and the gender of the victim. According to Study 2, nondiagnostic victim information increased the victim's perceived anger and desire for revenge in a rape trial but not an assault trial. In this study, if the presence of nondiagnostic information leads to an increase in perceived anger and revenge motivation for a female victim but not a male victim, that would support for the idea that victim gender drove the effects described in Study 2. However, if there is no effect for victim gender, this would support the idea that category of victimization drove those effects.

Method

Participants and Design

A sample of 135 (54 males and 81 females) undergraduates participated in the study. Two participants were dropped from the analysis because they provided incomplete data.

The procedure was very similar to Study 2. Participants read a one-page scenario of a vehicular assault. The scenario describes the defendant (Roger Carlson) as having an argument with the alleged victim (either Andrew Marshall or Rebecca Marshall) in his apartment. The defendant is described as leaving the apartment, getting in his car, and starting to drive off. In the defendant's version, the alleged victim attempted to jump onto the hood of the car and rolled off, and the wheel of the car ran over the alleged victim's leg. In the alleged victim's version, the defendant saw the alleged victim and accelerated, hitting the alleged victim and running over the alleged victim's leg.

In both of the High Victim Information conditions, the victim information was similar to the target information used in the scenarios in Study 2. We altered it slightly to make it more gender neutral and to establish the severity of the injury. In this case, the victim was a Methodist from Fort Collins majoring in Marketing who owned a 1998 Nissan Altima and who worked as an athletic trainer at a local health club. We did not deem it necessary to test the typicality of the information because the comparison was between two categorically identical criminal trials, the information manipulation across categories was identical, and on the face of it, it's difficult to ascertain how an observer might view this information as being more or less typical of males hit by cars as opposed to females hit by cars. After reading the scenario, participants answered the following questions: "How angry is the alleged victim?" (1 = "not at all," 7 = "to a large degree") and "To what degree is the alleged victim motivated by revenge?" (1 = "not at all," 7 = "to a large degree").

Results

Both dependent variables were analyzed using a 2 x 2 x 2 ANOVA, with Participant Gender, Victim Gender, and Victim Information as the independent variables. For the Anger variable, there was no significant effect for participant sex. There was no significant effect for Victim Information (p = .12), although high victim information (M = 5.96, SD = 1.20) was associated with greater perceived anger than low information (M = 5.63, SD = 1.36). There was a marginally significant difference for Victim Gender, F (1, 127) = 3.05, p < .09, r = .15, such that female victims (M = 5.99, SD = 1.22) were rated as being more angry than male victims (M = 5.59, SD = 1.33). There were no interaction effects.

For the Revenge variable, there was no significant effect for participant sex. There was no significant effect for Victim Information (p = .18), although high victim information (M = 4.62, SD = 1.87) was associated with a greater perceived desire for revenge than low information (M = 4.13, SD = 1.84). There was no significant difference for Victim Gender (p = .50), although female victims (M = 4.51, SD = 1.90) were rated as being more revenge driven than male victims (M = 4.25, SD = 1.83).

Discussion

The results showed no dramatic effect of victim gender in a vehicular assault case. There was one marginally significant effect for Victim Gender, such that female victims were judged as angrier than male victims. There were also no interaction effects between Victim Information and Victim Gender. While the scenario used in this study was not the same as the assault scenario in Study 2, it was reasonably close in most respects (e.g., severity of injury, lack of physical evidence that would determine culpability). In terms of the impact of victim information, the results seemed to mimic the results of the assault scenario (i.e., they were nonsignificant) more so than the results of the rape scenario. Thus, it seems safe to say that, while victim gender may have influenced participant judgments in Study 2, it was not the dominant factor.

This is not to say that victim gender is unimportant. In fact, in terms of stereotypic perceptions, one would have to consider victim gender as inextricably linked with a variety of crimes, perhaps none more so than rape (to say nothing of defendant gender). As a result, it is often difficult to tease apart victim gender from nature of the victimization. Study 3 represents one such attempt.

GENERAL DISCUSSION

With the studies contained in this article, we sought to examine the role of nondiagnostic behavior in criminal trials. Previous research had shown that nondiagnostic information about alleged rape victims led participants to perceive her as causally responsible for the rape and, consequently, provide fewer guilty verdicts (Rempala and Bernieri 2005; Rempala and Geers 2009). One hypothesis offered for this result, the Victim Stereotype Hypothesis, proposed that target information was activating negative stereotypes about the victim. The studies in this paper sought to test this hypothesis. The Pilot Study established that there are more stereotypes and negative stereotypes about alleged victims of rape than alleged victims of assault. Study 1 showed that nondiagnostic information actually benefitted targets in an assault trial: Victim Information increased perceptions of defendant guilt by influencing causality assessments, while Defendant Information decreased perceptions of defendant guilt by influencing affect judgments of the defendant. Study 2 showed that increasing nondiagnostic information about a victim in a rape trial led to an increase in aggression-related, stereotypic perceptions. Finally, Study 3 showed that, in a vehicular assault case, participants were not significantly influenced by victim gender, and that the effect of victim information for female victims mirrored its effect for male victims.

Taken together, these results support the Victim Stereotype Hypothesis: nondiagnostic, non-typical information activated stereotypes in a rape trial, leading to victim blame, but since there were no stereotypes to activate in the assault trial, the information actually benefited the alleged victim. This does not support the Justice Motivation Hypothesis, which predicted that witnessing a suffering target under any circumstance where the observer could not correct the situation would have been exacerbated by nondiagnostic target information and would lead to greater victim blame.

One unexpected finding was the prominent role of Defendant Information in Study 1. Although it showed an inconsistent impact in the past (Rempala and Bernieri 2005; Rempala and Geers 2009), it proved every bit as powerful a predictor as Victim Information in Study 1. However, rather than impacting Perceptions of Causality, as Victim Information consistently has, it affected Defendant Positivity. Perhaps if an observer's judgment is especially affected by the nondiagnostic victim information (e.g., negative stereotypes are activated), the observer feels no need to examine the defendant. If, however, the situation remains sufficiently ambiguous, defendant information comes into play, acting on attributions of guilt via perceptions of positivity. This explanation is speculative, however, and requires a systematic examination.

As for the generalizability of these findings, it would be worth investigating whether the effect of nondiagnostic information would become detrimental again in a trial associated with a high number of negative stereotypes about the victim (although, one would have difficulty finding a trial laden with more negative victim stereotypes than a rape trial). One also could further examine how the gender of the targets (defendant and alleged victim) interacts with type of crime (e.g., those that are heavily gender stereotyped and those that are not).

Although the present studies increase our understanding of the impact of nondiagnostic information in rape and assault trials, we acknowledge several limitations. First, the present studies relied on college student, mock-jury samples. In the future, the Victim Stereotype Hypothesis should be examined using non-student samples. That said, the decision-making process engaged in by mock jurors has proven highly similar to actual jurors (MacCoun 1989), even when using college students (Bornstein 1999). Thus, we do not anticipate that changing the sample would produce dramatic differences.

A more serious problem was that the gender distribution of these studies was quite skewed, with some analyses featuring more than twice as many female as male participants. Since gender was identified as a significant predictor in multiple analyses, greater care should be taken to establish a more equal distribution.

Another remaining issue involves whether these results would replicate with different stimulus material. The brief vignettes used in the present studies contain far less target information than what jurors might receive in actual court cases. As such, data will be needed to replicate our findings with richer stimulus materials. However, we should note that research on person perception using thin-slices (Ambady et al. 2000) and research on perceptions of guilt (Lassiter et al. 2001) has revealed that increasing the complexity of social stimuli (and thereby, nondiagnostic information) to which observers are exposed often does not appreciably alter target ratings. In a similar vein, we do not as of yet know if the same results will hold when the nondiagnostic information is presented in visual, rather than written, form. Although one could argue that the information provided by a visual representation would have a more dramatic impact than the paltry quality provided by the vignettes, this is only speculation.

On a final note, these studies illustrate some of the difficulties inherent in using written vignettes to study both trial information and type of crime. In the Pilot Study, we rated the typicality of the manipulated victim information in a pair of trial vignettes. In order to thoroughly investigate that issue, however, we probably should have tested the typicality of *all* the target information in the two scenarios (i.e., all characteristics and behavior of both targets) and matched quantity of target information for alleged victims and defendants in both scenarios. To

adequately analyze the dozens of variables involved, we would have needed several dozen participants, just to make sure the information was categorically meaningless before we commenced with the study. Similarly, it was difficult to tease out the effect of target gender in the results of the subsequent study because they involved a physical altercation. Male date rape victims and females getting into bar fights with males are both uncommon events that likely would dominate observer perceptions of the target, including perceived culpability. Taken together, this means that, in order to compare perceptions of two different categories of criminal trials, one may be *forced* to change the target information provided (victim gender included) in order to make the story plausible and be prepared to thoroughly analyze those changes.

In summary, these studies serve to establish the importance of nondiagnostic information in influencing perceptions of guilt. They also help to explain the interaction that takes place between nondiagnostic target information and the trial context within which the information appears.

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APPENDIX

Underlined portions are biographical information pertaining to the victim while bold-faced portions are biographical information that deals with the defendant.

Please read the following account of a 1991 criminal trial involving an alleged assault as though you were serving on the jury:

The alleged event occurred on the evening of September 29, 1991, at a bar near the campus of Colorado State University. The alleged victim is Andrew Marshall, a 5'9", 185-pound male. He is a single, twenty-five-year-old assistant manager of an Office Max in the Fort Collins area (home of Colorado State University). He was at the bar with a group of co-workers. The defendant is Roger Carlson, a 5'10", 175-pound male. **He is a single, twenty-eight-year-old Century Twenty-One agent from Denver. He was in Fort Collins visiting his brother, who was also at the bar at the time of the incident.** Although both men agree that the defendant punched the alleged victim on the night in question, the alleged victim claims that the attack was sudden and unexpected, while the defendant claims he acted in self-defense.

The basic trial testimony indicates that the two men were visiting the bar to watch the Monday Night Football game between the Denver Broncos and the Kansas City Chiefs. The alleged victim was seated with a group of co-workers at table on the opposite side of the room from the bar. **The defendant was seated at the bar with his brother**. In the middle of the third quarter, the alleged victim approached the bar to place a drink order. While he stood beside the defendant, the defendant made a stray, disparaging comment about the Broncos, the alleged victim's favorite football team, which the alleged victim took exception to. An argument ensued.

The alleged victim claims that the defendant used his left hand to grab the collar of the alleged victim's navy blue nylon jacket and used his right to punch the alleged victim in the face. The alleged victim fell to the ground, unconscious. The defendant claims that the alleged victim threw the first punch, but that the defendant ducked under it, knocking his **brown leather** coat off the adjacent stool in the process. Only then did the defendant strike the alleged victim. Surrounding patrons intervened and prevented any further violence. None of the patrons admitted to seeing anything, and the bartender was at the other end of the bar, tending to an order. The defendant's brother was using the men's room at the time of the altercation and saw nothing.

The punch fractured the alleged victim's nose and sent a bone fragment into his brain. The alleged victim no longer has any sense of smell and his equilibrium has become impaired to the point where he can no longer work effectively or walk unaided. The alleged victim claims that, at the time of the incident, he had just finished his second Budweiser, while the defendant claims that he had consumed a pair of **Miller Lites**.

The judge's instructions before the jury is charged include the need for the prosecution to prove beyond a reasonable doubt that the defendant did assault Andrew Marshall and, "in the end, vote in accordance with your conscience."

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Rush to Judgment: Prisoners' Views of Juvenile Justice

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Abstract: *Using qualitative interviews with adult prisoners who had previously been in some form of placement as juveniles, this study presents the perceptions of juvenile justice and its processes from a population who experienced them first-hand. Common themes about police, court (juvenile and adult), and correctional processes are identified, raising significant ethical issues about the operation of contemporary juvenile justice. Such findings can inform juvenile justice practice.*

Keywords: ethics, juvenile court, juvenile justice, qualitative research

INTRODUCTION

To fully appreciate the workings and outcomes of the juvenile justice system, it is valuable to understand the experiences of persons who have been processed through it. Having lived through the "system" first-hand, they are well positioned to comment on its operation. The present study was developed to hear the voices of former juvenile offenders, who have since become adult offenders, for the unique insights they can make to our understanding of how juvenile justice is received. This research focuses on the perceptions of adult male prisoners whom juvenile justice failed to prevent recidivating. Listening to these adult convicts' voices about what it means pragmatically to be processed as "delinquent" yields insights that can help to humanize juvenile justice, both by sensitizing juvenile justice practitioners to the backstage perceptions of delinquents, and by suggesting public policy reforms that might address some of the issues—particularly ethical ones—raised by the prisoners. Listening to their stories helps us to better understand the human condition (Waldram, 2007).

REVIEW OF THE LITERATURE

Major ethical issues of social inequity have inhered in juvenile justice in the United States since its inception. Platt's (1977) classic account of the Progressive "child savers," who crafted juvenile courts, details the class-based politics that led genteel reformers to couch intrusive control mechanisms for the financially poor as benign ministrations that would rescue them from evil and corruption. Rothman (2002) describes the conflict between moral conscience and bureaucratic convenience that ensnared the burgeoning juvenile system, with the latter ultimately triumphing.

Idealism continued to collide with reality during the first century of a formal juvenile justice "system." The grand rehabilitative rhetoric which draped its beginnings in the first half of the 20th century became increasingly tattered as socio-political forces in the latter half of the century reconstructed deviant youth as primarily depraved (Feld 1999). A focus on the behavioral malleability of wayward adolescents dimmed as dazzling visions of

hardened proto-criminals, who threatened social stability, became politically ascendant.

In the mid-to-late 20th century, juvenile justice was increasingly politicized, resulting in what Feld (2003) describes as an "inversion" of juvenile jurisprudence and sentencing policy. Judicial discretion was supplanted by politically charged legislative and executive power, as goals like public safety and criminal punishment were substituted for more benign concepts like a youth's "amenability to treatment" and her "best interests." A spurious wave of juvenile violent crime in the late 1980s and 1990s, sensationalized by the mass media (Ruddell and Decker 2005), discredited the juvenile court and enabled the transfer of adolescents from juvenile adjudication to adult criminal processing and punishment (Beckett and Sasson 2004). The shift of power was from ostensibly impartial juvenile court judges to the politicized public prosecutor, whose discretion in both juvenile and adult cases is vast and primarily unregulated (Davis 2007). That transfer of power has been described as ripe with "injustice and irrationality" from a public policy standpoint (Bishop 2004).

More recently there appears to be some "softening" in juvenile justice. In 2005 the U.S. Supreme Court eliminated the death penalty for juveniles (*Roper v. Christopher Simmons*, 543 U.S. 551), and in 2010 it ruled that for non-homicide crimes, juveniles cannot be sentenced to life in prison without parole (*Terrance Graham v. Florida*, 130 S.Ct. 2011). Rates of transfer of juveniles to adult court have declined (Redding 2008). The number of juveniles in residential placement decreased from 105,055 in 1997 (a rate of 356 juveniles per 100,000 juveniles in the population) to 81,015 in 2008 (a rate of 263 per 100,000) (Hockenberry, Sickmund, and Sladky 2011; Sickmund 2010). The public—at least when presented with highly hypothetical vignettes—is willing to pay for early childhood delinquency-prevention programs and for rehabilitation, in lieu of incarceration, for youth charged with serious crimes (Nagin et al. 2006). Some states, such as Florida, favor transfer to adult court "[o]nly for youths accused of especially serious crimes and for those with a history of failing to reform" (Applegate, Davis, and Cullen 2009:70).

The raced nature of much of criminal justice has been lamented (Alexander 2010; Reiman and Leighton 2010; Sentencing Project 2008; Mauer and King 2007; Capers 2006). In the United States in 2006, of the nearly 93,000 youth in residential placement: 40 percent were Black, 35 percent were White, and an additional 20 percent were classified as Hispanic (Office of Juvenile Justice and Delinquency Prevention n.d). The targeting of illegal drugs since the 1980s has had markedly disparate impact on people of color, including youth of color who are brought into the juvenile and adult systems (Mauer 2006).

Detention had an especially pernicious effect in disadvantaging Black youth relative to White youth (Leiber and Fox 2005), and racial disparities intensify as one progresses through the juvenile process (Hoytt et al. 2002). In 2002, Blacks represented 16 percent of the juvenile population nationwide, but 29 percent of the delinquency caseload, with Black youth constituting a disproportionate share of cases at all stages of case processing (referral, detention, petitioning, waiver, adjudication, residential placement, and formal probation) (Snyder and Sickmund 2006).

Other ethical issues regarding the experience of juvenile justice processes have also been studied. For example, Feld's (2006) research on police interrogation of juveniles concluded that youth who are fifteen and younger are generally incapable of exercising their *Miranda* rights. Institutionalization of juveniles in reform schools has been seen as iatrogenic in terms of promoting future criminality (Miller 1991). Unhealthy "paradoxes of treatment" have been identified in juvenile correctional facilities: encouraging emotional displays while also rigidly controlling such displays; exposing youth to competing frames of interpersonal misfortune and individualized deviant motivation as sources for their delinquency; and providing incentives for youth to game the system by simply "jumping through the hoops" (Abrams, Kim, and Anderson-Nathe 2005).

Against the ethical thicket that encompasses so much of what is done with juveniles, it is prudent to explore the experiences of those who have lived within juvenile institutions. Consistent with the tenets of many critical perspectives, the present study relates stories of the marginalized.

Relatively few studies in contemporary criminal justice have examined juvenile justice from the vantage points of those who have experienced it. First-hand perspectives on adult imprisonment have been explored (e.g., West-Smith, Pogrebin and Poole 2000; Toch 1992). Also, some research has been done with regard to perceptions of other important players in juvenile justice. For example, in a mail survey of 115 parents of youths involved in juvenile justice in a mid-western county, Benner, Mooney, and Epstein (2003) found that respondents felt their children's most important service need was responsible case management. Brubaker and Fox (2010) interviewed 20 service providers who worked with girls in juvenile justice and found providers were often overwhelmed by the panoply of serious social disadvantages faced by their clients. Additionally, there was a lack of structured collaboration among providers, as well as a dearth of gender-specific and culturally-specific programming, particularly for African-American girls.

Gaarder, Rodriguez and Zatz (2004) examined the perceptions of girls from the viewpoint of juvenile court practitioners, particularly probation officers. They found that "stereotypical images of girls outweighed any realities," with court practitioners commonly using gendered stereotypes that failed to perceive links between

the girls' manipulative behaviors and their prior victimizations (2004:555). They concluded that "juvenile court staff often act based more on the perceptions they have of girls and their families than on the realities the girls face, including both individual and societal factors" (2004:572).

Corley, Bynum and Wordes (1995) also interviewed juvenile court personnel and found that decision-makers weighed family factors as particularly important in determinations about intake, processing, disposition, and placement. Leniency was more likely when parents exhibited what the court personnel perceived as acceptable levels of control over their families, and when they were seen as cooperative with the court. Two-parent families were presumed to have better control than single-parent families, and such family variables effectively "became class and race surrogates" (1995:168).

A few studies have examined youths' perspectives shortly after discharge from juvenile institutions. In interviewing 35 youth in Massachusetts who had been in residential treatment, Hartwell et al. (2010) learned that the most difficult aspects of transitioning back to the community, according to the youths, involved the allure of former peers and the old environment, as well as the availability of drugs and lack of money. Abrams (2006) studied ten youths during the first few months post-release from a twelve-month therapeutic correctional institution in Minnesota, and found that financial support and "selective involvement" with old influences were important means to reduce the likelihood of recidivating. Mincey et al. (2008) interviewed nine graduates of juvenile residential programs in Miami, revealing the importance of supportive families during this time of transition, as well as the challenges of overcoming environmental factors like drugs, violence, and lack of income.

A few studies have examined the views of delinquents themselves. Huerter and Saltzman (1992) assessed the perceptions of 24 youths in residential placement in Colorado, with regard to their delinquency court processes. Participants generally had a negative view of the police, and only half of participants felt they understood what was happening when they were in court. Common suggestions by participants for improving the system included: treat juveniles separately from adults; have court personnel speak to and listen to juvenile defendants; and treat juveniles with patience, including allowing them time to question and comment in court.

Redding and Fuller (2004) studied 37 juveniles who had been automatically tried as adults under Georgia law. The participants had been unaware of the transfer law; they felt that they may have been deterred from their crime if they had been aware; and they believed it was unfair to be criminally processed as adults. Shannon and Abrams (2007) interviewed seven juvenile offenders who were fathers during their incarceration in Minnesota. They concluded that "fatherhood posits the potential for desistance from crime, yet these young men are in need of a structured intervention to actualize this possibility" (Shannon and Abrams 2007:189).

Bright, Ward, and Negi (2011:45) interviewed nine girls following juvenile court involvement, finding that "maltreatment and victimization, family problems, neighborhood-level poverty and crime, and a lack of support from larger-scale institutions such as income maintenance and school systems" were major factors perceived by participants as contributing to their delinquency. Veneziano, Veneziano, and Gill (2001) had 116 state prison inmates complete a questionnaire with regard to their perceptions of juvenile justice. They found that most participants who had been adjudicated found juvenile justice not especially helpful, nor did those participants feel that the system acted as a deterrent for other juveniles.

The present study focuses on convicted adult offenders' recollections and perceptions of juvenile justice system events that they experienced as youth. Though they are not necessarily accurate or complete descriptions in an "objective" sense, the perceived realities of juvenile justice processes by former juvenile offenders who are now adult offenders, are worthy of study, in order to assess the deep, human impacts that such processes can have, and in order to appreciate that subjective definitions of reality have very real consequences for individual actors (Thomas and Znaniecki, 1995 [1918]).

METHOD

The study sample was selected from the largest men's prison in a state located in the mid-Atlantic region of the United States. The prison held a variety of prisoners, classified at different levels of security, including maximum security. There is no reason to believe the inmates of this particular prison differed appreciably in terms of demographics, compared with inmates in other men's prisons throughout the state. Adults were interviewed, rather than juveniles, in order to obtain a retrospective on juvenile justice experiences held by men who had time to reflect on their youth and its impact on their adult lives.[1] Though the men's narratives do not necessarily portray present operations of juvenile justice, they do offer insights into the philosophies that prevailed in the system, especially the impacts on the lives of these adult offenders in their youth.

The prison in which the interviews were conducted did not possess information on which prisoners had been in placement as juveniles, but it did maintain a listing of all prisoners under age forty (n=183), which was initially chosen as the upper age limit for this study so that the participants' juvenile experiences would not be too remote from contemporary juvenile justice, and so that a meaningful sample could be obtained. The author was

permitted access to the automated case summaries for each of these prisoners. For some, but not all, prisoners who had been considered for parole, the case summary contained a section on juvenile history and placement.[2] Sampling was limited to prisoners whose case summaries indicated at least one juvenile placement.

Twenty-eight participants were identified in this way. Each potential participant was initially issued a "call out" sheet by the prison's psychology department to report to the psychology treatment area at a particular time. There was no indication of the purpose of the visit. The author met with each man individually, explained the study and its purpose, and inquired whether the prisoner wished to participate.[3] It was made clear that the study concerned only the prisoner's juvenile experiences, not his adult criminality. The refusal rate at initial meeting was 21 percent (n=6). Additionally, three men, who agreed to participate, withdrew during the course of the study, for a variety of reasons.

The files on the participants that were accessible to the author contained only rudimentary information, sometimes incomplete, about the reasons for their current confinement. The available data indicate that these men's current incarceration was related primarily to aggravated assault, robbery, criminal homicide, or drug offenses.

In order also to understand the experiences of persons who had committed extremely serious crimes as youth, another eleven participants were identified from among the "juvenile lifers" at the prison. Those are men who were convicted of some form of criminal homicide committed when they were juveniles, and they were sentenced to "natural life" (with no possibility for parole in this state) in prison. Because the prison had no listing at all of who were juvenile-lifers, the author relied on the prison psychologists to identify juvenile-lifers, in large part, by a snowball method. An informal, hand-written list of juvenile lifers, prepared by some of the juvenile lifers themselves, was also consulted. These men were invited to participate in the same manner as described above for the men who were not juvenile-lifers.

The racial/ethnic composition of the participants (n=30, consisting of 19 non-juvenile-lifers and 11 juvenile-lifers) was: 50 percent African-American (n=15), 13 percent bi-racial (n=4), 20 percent White (n=6), 13 percent Latino (n=4), and 3 percent Asian (n=1). Among the juvenile-lifers alone, 64 percent were African-American (n=7), 27 percent bi-racial (n=3), and 9 percent Latino (n=1). The mean age of the juvenile lifer sample was 35 years (range 23 to 50; median 34); the mean age of the non-lifer sample was 29 years (range 21 to 38; median 30).

Semi-structured, open-ended interviews were used. Each prisoner was asked to describe his youth: his experiences of getting in trouble with the law as a youth (discussed chronologically), who or what was important to him, how he felt he was treated during the juvenile justice processes he experienced, his home and school experiences, his friends, and his dreams for the future. Finally, each was asked about his present views of juvenile justice, including what, if anything, he would like to see changed with the system. [Not all of these topics are part of the present analysis.]

All interviews were conducted by the author, working alone with the participant, in an office with a closed door. The setting for the interviews was the prison's psychology department, in whichever psychologist's, psychiatrist's, or nurse's office happened to be vacant. Interviews were conducted from November 2007 to January 2008. Each participant was interviewed at least twice, and each interview lasted approximately one hour. The interview topics had been pre-tested with a small group of juvenile-lifers at the prison.

The second interview with each participant was largely a validity check: the author summarized his understanding of what the participant had said during the first interview, asked for clarification and elaboration on issues that were unclear, and allowed the participant to add any new information that was relevant.

The prison prohibited any form of recording of interviews, other than hand-written notes, so the author manually recorded participants' statements, including participants' narratives during each interview, and these were transcribed shortly after the interview. Thus, the statements reported in this article are not verbatim quotes but rather the author's best recordation of what the participant said. Attempts were made to capture the participant's authentic phraseology as much as possible.

Data analysis was based primarily in grounded theory (Charmaz, 2006), starting with participants' own perspectives and meanings and recognizing that participants are experts with regard to their own experiences. A major goal is to understand the nature of a phenomenon, especially its key concepts, as it occurs across individuals. The inductive method yields theories that are contextual and local.[4]

CENTRAL THEMES

The participants' earliest recollection of episodes of apprehension as juveniles involved their participation, primarily in theft (including shoplifting, bicycle theft, and car theft) and drug possession. Over half of participants had early histories of theft, and one third had early histories of drug possession. Nearly all participants received probation, rather than a more severe penalty, for their early juvenile cases.

Over three quarters of participants discussed at least one crime against the person as part of their juvenile history. (This includes twelve participants who described homicides, including all the juvenile-lifers). Excluding the homicides by the juvenile-lifers, crimes against the person tended to be either assault [usually of another youth] (sixteen participants) or robbery (ten participants). Another

relatively common crime, described by nearly a quarter of participants as part of their juvenile history, is burglary.

A variety of themes surfaced from participants' discussions of their juvenile-justice experiences, which can be categorized chronologically as involving police, courts, and placement.

Police Unfairness

With regard to the police, the major theme expressed by participants related to police unfairness. One common aspect involved ***intimidation by the police, especially during interrogation***. Examples of comments follow.[5]

> ***GL***: They didn't give *Miranda* warnings because they said I wasn't under arrest. As a kid, I didn't think I could leave. I was there from 9 a.m. to 11 p.m.

> ***FF:*** I wish I knew not to speak without a lawyer present. The detective had me thinking I'd just be a witness. The detective was the con man, and I took it.

A major purpose of the *Miranda* warnings is to communicate clearly to suspects that the police are not their friends or allies. However, some police officers and police departments have devised subtle ways to comply with the letter of *Miranda* but not its spirit. Teens' immaturity and impulsivity make them especially vulnerable to such duplicitous tactics.

The observations are primarily consistent with the literature. Feld (2006) found that juveniles under sixteen years of age generally lacked the ability to exercise *Miranda* rights. Grisso (2006) reported that 55 percent of delinquent youth misunderstood at least part of the *Miranda* warnings, compared with 23 percent of adults. Rogers et al. (2008:80) concluded that "[t]he synergistic effects of poor reading comprehension, low intelligence, and comorbid mental disorders are likely to have catastrophic effects on Miranda comprehension and subsequent reasoning."

Another theme regarding the police relates to ***street-level harassment, including the use of extra-legal violence.*** Examples are:

> ***AF***: The police would take us to a White neighborhood where there was a rival gang, and tell us to walk home.

> **TR:** I got my ass whooped by the police every time. When I wasn't arrested, I got smacked with a gun and harassed.

Experiencing abuses of power by the police can easily engender further disrespect for the law among youth, whose view of authority is often unfavorable to begin with, as part of the natural history of adolescence. Extra-legal imposition of official force against youth aggravates an already tenuous relationship, boding ill for long-term equanimity in police-community relationships. Brunson and Miller (2005) have identified common concerns among Black youth with regard to persistent harassment and disrespectful treatment by the police, undermining the legitimacy of the police. Huerter and Saltzman (1992) also found that adjudicated youth tended to have a low opinion of the police, due largely to perceived harassment and physical abuse of power.

Finally, it should be noted that one-third of study participants (and one-fourth of juvenile lifers) felt they were treated fairly by the police when they were juveniles.

Courtroom Alienation

Beyond the police stages of arrest and interrogation, participants tended to find their court experiences almost hostile. Indeed, the frequency of misgivings about the court far exceeded those about the police. The most common concern about court, expressed by at least two-thirds of participants (including all of the juvenile lifers), is ***lack of understanding of the juvenile and/or adult court processes*** in their cases. For example:

> ***PS***: I didn't understand what they were talking about. The words they was using I never heard before. I'm just agreeing even though I don't know what they talking about.

> ***DT***: While in juvenile detention before trial, I couldn't study the law. There was no law library. I wouldn't know where to start even if a law library was available. You need a guide to take you through anything at that age… I had no clue that life was actually life… I never got into life "without parole"; I took parole for granted.

> ***FD***: As a kid, you understand nothing. The whole process goes over your head… All the lawyer talk (like objections, cross-examination), I got none of that… You're sitting there, and everything around you is affecting you but you don't understand it… The process is like walking in the complete dark. You need somebody to set them down and explain; kids need to understand the process and get help with legal terminology. When at the detention facility pending trial, I had major charges over my head, but nobody explained them; it was just TV and card games.

> **AM**: I didn't understand court. I found it was a lot different from the movies. I was nervous, shaking. The judge looks at you like you're guilty, prove your innocence. My lawyer tells me to be quiet… Everything is yak, yak, yak. You say you know because you don't want to look dumb.

A few participants noted that they understood court proceedings eventually, after having been through multiple, prior court processes. Finally, six participants felt that they comprehended what was going on in juvenile court.

Participants' non-comprehension of what was transpiring in court was very common. This occurred in juvenile court and was exacerbated when juveniles were prosecuted in adult court. It is difficult for juveniles to accept the basic fairness of a process directed at or against them when they cannot fathom how the outcome is derived. Indeed, Redding and Fuller (2004) found that none of the 37 juveniles who participated in their study had anticipated they would be tried as an adult for the particular crime they committed. In juvenile court it is ironic that that many youth cannot understand what is happening to them in what is theoretically a youth-centered jurisprudence (Rajack-Talley, Talley, and Tewksbury 2005).

Procedural due process would seem to require at least a basic comprehension of legal processes being used to remove one's liberty. A youth's ability to engage in crime is not necessarily correlated with his level of legal sophistication. What is striking is the naiveté and immaturity that many of these youth exhibited, often in the face of potentially major criminal punishments.

Aside from the inherent difficulties of the specialized jargon so typical of court processes, youth involved in juvenile justice commonly present with learning disabilities (Beyer 2006). The average IQ of youth in detention is approximately 85 (general range: 70 to 100), compared to a youth nation-wide average of 100 (general range: 85 to 115), and about sixty percent of youth in detention meet the criteria for at least one mental disorder, compared to about eighteen to twenty percent of youth in the general population (Grisso 2006). The combined effects of psycho-social immaturity, compromised mental faculties, and an environment steeped in esoteric terminology make comprehension of court procedures a genuine challenge for many youth.

Exacerbating these difficulties is another court-related theme: ***ineffectiveness and poor quality of defense counsel***. Nearly all the men were seriously dissatisfied with the legal representation they received when they were juveniles. In contrast, a few participants (including two juvenile-lifers) felt their lawyers did at least an adequate job, and a few participants who had had multiple juvenile cases reported differing experiences (some good, some bad) with their lawyers.

Among the men who expressed concerns about legal representation, the most common issues related to the relatively little time spent with clients and shoddy representation. All of the illustrative quotes given here are from juvenile-lifers.

> ***AD***: I got a court-appointed lawyer. My mom was going to hire an attorney, but he convinced her he could handle the case by himself. I never seen him except when at court. He never discussed witnesses or strategy with me… I gave him a list of witnesses who was there; he tried to contact a couple of them the day of the defense and said they could be there at 3:00, but the judge wouldn't give a continuance… The lawyer skipped the defense, and we just went to closing argument.
>
> ***FD***: Based on what my court-appointed lawyer said, this isn't a complicated case. I only saw the lawyer twice before trial: at the preliminary hearing and at arraignment… There was no investigation by my lawyer, and no expert… My lawyer didn't put on a case: as soon as the prosecutor rested, he rested.
>
> ***VK***: My court-appointed lawyer had me believe I'd serve 10-15 years. She wanted me to plead guilty. My focus was on 10-15 years based on what my lawyer said, not "life." I didn't understand what "life" meant. Years later the lawyer said she made some mistakes early in her career.
>
> ***AF***: I had a court-appointed lawyer, who only talked to me at City Hall. My lawyer didn't explain the life sentence. Court-appointed lawyers, they be with the D.A… My lawyer tricked me into testifying, saying that if I don't get on the stand, he wouldn't put any of my witnesses on the stand. I was scared. I'm in adult court. I didn't want to testify.

It is axiomatic that government-appointed lawyers for indigent defendants rarely have much time to spend with those clients. Often viewed as a merely unfortunate issue in the background for adult defendants, it comes into much higher relief when the clients are adolescents who, from the outset, are more disadvantaged in that they are less likely to understand criminal processes and courtroom legalese.

Participants' generally poor experiences with their lawyers reflect serious issues with the role of counsel for youth. Drizin and Luloff (2007) suggest a number of problems with representation of youth in juvenile court: "poor investigation, infrequent use of motions, high caseloads, over-reliance on pleas, a juvenile court culture of wanting to 'help' juveniles, and a general lack of training among attorneys on youth and adolescence" (2007:289). Except for the juvenile court culture, all of these probably apply also for youth transferred to adult court.

Especially in cases of juveniles who were given "natural life" sentences, the quality of legal representation

was often seriously lacking and sometimes seemed unethical. The minimal time spent with youth facing the prospect of the penultimate penalty, the lack of investigation of their cases, and the miscommunications about fundamental matters—all betray capitulation to almost a rush-to-guilt process. Youth who trust in their counsel to help guide them through very adult-type processes may ultimately find themselves embittered.

Independent of concerns with defense counsel, the perception of a ***compromise of judicial neutrality*** was evident in the narratives of some participants, again more pronounced among the juvenile-lifers. Twenty percent of participants discussed issues regarding perceived improper conduct by judges in their cases as juveniles. All of these raise the specter of judicial bias.

> **ST:** The judge doesn't listen to the kid or his lawyer; it's like a kangaroo court.
>
> **TR**: I caught another case for resisting arrest. The judge threw the file across the courtroom. He said, "You were supposed to be here." [I had absconded.] He said I was a menace to society. He told the D.A. and the public defender to shut up. He kicked everybody out of the courtroom. I was sentenced to three years at a maximum security juvenile facility.
>
> ***AD***: During the trial, the guys at the jail told me every day to go to the law library and study my case, but I trusted my lawyer. Everything my lawyer asked for, the judge would shoot him down. The judge was like a third D.A… He was asleep during parts of my trial. My lawyer didn't want to embarrass the judge by objecting. I objected, saying clearly, "Your Honor, you can't be asleep during my trial." The record, though, just says there was an "excited inaudible outburst."
>
> ***GL***: They tricked me out of a jury trial. They said they'd go for the death penalty if I took a jury trial. It was a bench trial… The judge was running it like a well-oiled machine by the time we got to trial.

These perceptions, especially when viewed in combination with the other court-related themes, present images very much at odds with official rhetoric about how the courts are supposed to operate. Blatant compromises of judicial neutrality are supposed to elicit, at a minimum, strenuous objection from defense counsel. That such was not forthcoming is unsurprising if defense counsel were as deficient as many participants found them.

Dissatisfaction with the judicial role may in part reflect youth's anticipatory injustice: "Combined with immature psychosocial capacities that contribute to a foreshortened time perspective and reduced ability to take others' perspectives, adolescents may have a heightened attention to fairness in justice system procedures" (Woolard, Harvell, and Graham 2008:209). Such an emphasis on fairness, however, is not entirely misplaced: a society that schools youth on civics lessons about government and justice had best seek to deliver on those goods when youth find themselves enmeshed in "justice."

Juvenile-placement Ambivalence

Finally, reflecting upon the "corrections" aspect of their cases, nearly all participants who discussed time they had spent at a private, non-secure juvenile facility reported primarily favorably on that experience. The same applies for those who discussed treatment facilities and adolescent-shelter facilities.

Private, non-secure juvenile facilities were the most common form of placement. These included traditional residential, as well as farm and school, facilities. A peculiar form of social commentary, the major theme from participants was that these ***private, non-secure facilities were preferable to their home environments.***

> ***SS***: The private facility was better than home. There were van rides, three meals, snacks; you were allowed to smoke if your guardian agreed. I spent 15 months there.
>
> ***AD***: I was at the juvenile facility for 9½ months. I met guys from all over the city who were selling drugs, robbing, stealing cars… When I was 17, I thought that if I get caught, I'll do nine months at that beautiful facility or be with girls at the other private juvenile facility, and I'll get home passes.
>
> ***PS***: It made me feel comfortable, so it didn't help me; it was a nice juvenile placement. They should have been rougher (more rules); they should scare you. It shouldn't be like Candyland. It should be halfway like an adult prison… Only two staff members tried to help me; they talked with me on a daily basis. They felt bad when I lost my mom. Everybody else was a--holes.
>
> **TR**: I was at a private juvenile facility for nine months. It was like a college campus. The food was better than five-star restaurants. There were weekend hikes, swimming, pool, basketball. School was in the morning. I got home passes every month. When I heard about how good it was, I wondered, "Are they sending me to jail or college?" If this is punishment, I'm gonna do crime the rest of my life.

Though obviously lacking in deterrent effect, due to their contrast with the pathetically destitute home environments from which most of these youth came, the private placements would seem appropriate milieu for

rehabilitative efforts. Participants' experiences also reflect the importance of continuation, and probably even expansion, of services post-confinement, when youth commonly return to impoverished communities that present them with few legitimate opportunities for success. The punitive side of juvenile justice is best complemented with an array of community and school resources that seeks to ameliorate the abject social conditions in which most of these youth find themselves.

The few men who had been sent to facilities specifically for treatment for substance abuse tended to have been sent there as young teens. Perhaps not surprisingly, the common theme was that the ***substance-abuse treatment was ineffective, largely related to the youth's immaturity***.

> **NL:** At 12 years old, I was sent to a 45-day rehab. It had one section for adults and another for juveniles… I didn't know nothing about rehab. I was too young to comprehend. I didn't think I had a problem with drinking or smoking weed.

> **HP**: At 15 I was sent to a rehab facility for juveniles. It had girls; that's what I looked forward to. I was tryin' to do the time and get right back home; I didn't really hear that crap. I found out about PCP and said I wouldn't smoke that again; I just smoked marijuana after that… The placement was like camp, not like hard time.

For participants whose placements involved group homes there was no clear pattern: ***some group homes were viewed favorably, while others were deemed baleful.*** Such mixed findings are expected, in light of the great variability in milieu and resources among group homes. Nevertheless, it is easy to see how the lower strata among group homes can actually aggravate social and emotional conditions associated with delinquency and criminality.

> **GG**: When I was 14, the judge put me in foster care. About six kids lived in the foster home in a trailer park. All the kids had been in trouble. There were two foster parents and their son and his wife and their kids too. The foster parents took the money and used it on themselves. I just got one phone call, and no other contact, with my parents… I skipped school every day when I was there. No one knew. I'd pretend I was going to school… The foster mother would put my clothes in the dryer without washing them… Then the judge put me in a halfway house for boys, with 10 to 15 kids. It was run by college interns. We cooked our own food and ran the house. The program was a joke. I had fun. There were fights all the time. We could do whatever we wanted… There was a fraternity house across the street and another one next door. As soon as the third shift came, he'd set the alarm clock and go to sleep. Then we would go to the fraternity house next door and party… Where's the rehab? I faked it 'til I made it.

> **RL**: I was found delinquent and placed in a group home for juveniles and dependents. All were treated equally. It was co-ed. The group home was very helpful. I graduated from computer school and got a GED while there. They taught independent living skills; the group home was great.

In contrast to group-home experiences, participants who had spent time at secure juvenile facilities almost uniformly found that experience unhelpful. These unfavorable views were offset only in that ***school and sports programs at secure placements were often valued.*** Those seemingly rehabilitative components, however, had little long-term impact on participants' lives, especially when subsumed in the more depressing environment of secure placement itself.

> ***SS***: I was 15 when I got locked up at the secure juvenile facility. There were drugs and stabbings there; it was like a penitentiary… They had an awesome school program; I did well. I got into the boxing program. They helped me with my dyslexia. I started to excel at academics, carpentry, welding, computers.

> **BL:** At the maximum-security juvenile facility there was no discipline in terms of how they ran the place. We pretty much did what we wanted, other than when they pressed charges. They feared us more than we feared them… The staff sometimes came to work drunk or high; they sit around and collect a paycheck.

Maximum-security juvenile facilities have been found to produce youth who "lost hope and opportunities without ever having much of either to begin with" (Inderbitzin 2005:19). Austin, Johnson, and Weitzer (2005) report that community-based programs produce outcomes at least as good as traditional training schools, in terms of recidivism and community adjustment. Such programs "reduce crowding, cut the costs of operating juvenile detention centers, shield offenders from the stigma of institutionalization, help offenders avoid associating with youth who have more serious delinquent histories, and maintain positive ties between the juvenile and his or her family and community" (Austin et al. 2005:3).

Adult-institution Perniciousness

Finally, for participants whose histories included placement in adult jail or prison, their experiences were recalled—not unexpectedly—as traumatizing by nearly everyone. Participants' narratives convey some of the

terror of adolescent existence in the machismo of the adult institution.

> ***DT***: At 16 I was sent to adult prison, separated from adult prisoners. When I turned 17, I was transferred to another adult prison where there was no separation. It was creepy; there were dim lights. That was when I first started seeing the violence and attitude and atmosphere of prison, like fights over crazy stuff. The first thing I did was got me a knife; I made it from the bottom of my chair… It was very, very taxing mentally… Fear gave me a heightened awareness of seriousness. I had to grow up but didn't have any experience growing up. A lot of things I had to figure out real fast… They put me out in general population after I turned 18.
>
> ***FF***: In jail, I didn't know what was going to happen. I looked for ammunition like soda cans to defend myself. I carved my name in my hand with a razor blade, to make people think I'm crazy. I was in the adult jail until my second statement, when I told the detective I was 15. At first I lied and told them I was 18, thinking I'd get bail, because juveniles don't get bail.
>
> **RL:** At 16 I was in the New York adult jail for a couple days, until my mother bonded me out. I was just in the intake block. It shattered my idea that I was just a kid.

Participants' experiences with adult jails and prisons show that those facilities may instill fear but are otherwise emotionally—and often physically—dangerous for youth. Far more than secure juveniles facilities, these institutions approach Goffman's (1957) "total institutions" and entail the fundamental deprivations of life that Sykes (1958) termed "pains of imprisonment." Unless the goal is to produce "state-raised convicts" who learn predation rather than cooperation (Abbott 1981), containment of adolescents in such institutions appears contraindicated. Redding and Fuller (2004) suggest that incarceration in adult facilities may have a brutalizing effect on youth, as they learn the acceptability of violence and also harbor a deep sense of having been treated unfairly.

Hope for Reform

Aside from an opportunity to tell their stories, a major appeal of the study for most participants was the ability to suggest ways in which juvenile justice might be improved for kids in the future. Perhaps participants saw some redemptive value in this discussion; even the relatively reticent tended to become garrulous on this topic. One-third of participants suggested ideas that hearken back to original ***individualized and rehabilitative ideals*** that underlay the formation of a separate juvenile apparatus.

> **RH**: Don't rush to judgment about what type of person you are… You get a label. They too quick to label you… At camp, most of the staff were there for the paycheck. Just a few counselors took an interest. You need to sit down and talk with kids, give them a chance to open up.
>
> **ST:** Probation officers should stop treating kids like future felons, instead of like a kid in trouble. Don't treat kids like they must be failures as adults.
>
> **PP**: Cops and courts need to listen. Don't assume you're lying. We might not actually be lying. Don't just assume you've heard that line before.
>
> **NL**: Don't certify juveniles as adults. You're saying there's no room for growth and development.

The tendency to pre-judge and stereotype young people is perhaps strongest when the youth are in trouble with the law. Based on the views of participants (which are fairly consistent with the tenets of labeling theory in criminology [e.g., Becker 1963; Lemert 1951]), treating youth as failures exacerbates their alienation and may actually be criminogenic.

Mincey et al's (2008) study of the perceptions of adjudicated delinquents also found marked concern with unfair treatment in juvenile justice. Similar to the present findings, Huerter and Saltzman (1992) noted that adjudicated youths' suggestions for improving juvenile justice stressed having court personnel speak with them and listen to them, seeing them as "much more than a piece of paper" (1992: 355).

The tendency for decision-makers to minimize youths' voices can create a system in which the "justice" that prevails is rooted in a reality devoid of particular details that do not fit well with decision-makers' own lives and experiences. It is especially easy to downplay the perspectives of youth who are most different from decision-makers:

> The tendency in law to separate reason and objectivity from feelings and subjectivity, thereby reifying abstraction over context, has resulted in a legal system that ignores individual stories situated within specific contexts and governed by the facts of particular lives. The result is that, in many instances, individuals subjected to, restricted, and defined by norms based on the characteristics of people who share no similarities with them cannot avoid future interactions with a legal system that ignores the realities of their lives while forcing the individual to comply with a norm that simply does not fit. (Michaelis, 2001:306)

Over one-quarter of participants discussed ideas that centered on the theme of ***mentoring and other safe havens***. Here the emphasis was on mentoring that expands a youth's horizons, provides models for lawful living, and gives hope. Such desiderata might also be considered valuable for schools in their social mission of fostering civility among youth.

> **RW**: Children need to be shown love; they need to know that somebody cares about them. Mentoring shouldn't just be geared to sports. Talk about money and your own business or vocational skills. Take kids out of their environment and give them hands-on experience with different cultures.
>
> ***DT***: Kids need exposure to positive influences; they need to be around people they respect. They should be able to see that doing something good is cool too. Let kids see that I got plenty of money and am not doing anything illegal. Give kids hope, rather than having them think that respect is gained by hitting (like father hitting mother) or by having a gun.
>
> ***AD***: When they started closing the rec centers down, we roamed the streets after school to 6:30, looking for drug dealers. Kids need safe havens, rather than get into mischief, especially when their parents are at work. Summer camps are important too.
>
> **HG**: We need to help kids stay in school, rather than not go to school because of fear of bullying or getting shot.

DISCUSSION AND POLICY IMPLICATIONS

When adult prisoners reflect upon their own experiences as juveniles, a variety of ethical discrepancies in the operation of justice systems becomes apparent. As the clay which the juvenile justice apparatus sought to mold into more law-abiding citizens, these men raise issues about the reality of juvenile processes, which they have known first-hand, as it differs significantly from what the jurisprudence of juvenile justice proposes ought to be. This includes experiences of juvenile exclusion from traditional processes in favor of removal to adult criminal processes. The sample used in this study (adult prisoners who were in some form of placement as juveniles) is particularly helpful in understanding the deficiencies of juvenile justice.

The ease of overreaching in interrogations (e.g., Rogers et al. 2008; Scott-Hayward 2007); the less-than-zealous advocacy by counsel (e.g., Drizin and Luloff 2007); the psychological trauma, learning disabilities, and immature thinking, identity, and moral reasoning that are common in these youth (e.g., Beyer 2006; Scott and Steinberg 2003); the substantial racial differences in the processing of Black youth (e.g., Lieber and Johnson 2008; Snyder and Sickmund 2006); the welcome nature of juvenile placement as a respite from poverty and family dysfunction juxtaposed against the terror of placement in adult jails and prisons (e.g., Ashkar and Kenny 2008; Equal Justice Initiative 2007)—individually and in concert these phenomena present serious ethical challenges for juvenile justice. Though the sample in the present study is inherently biased in that it consists of juvenile justice "failures," an important consideration is that the general sense of injustice with regard to juvenile processes—including the "rush to judgment"—may further alienate troubled youth from non-criminal self-concepts (Redding 2008).

The tableau that emerges from participants' lived reality is of a heavily bureaucratic juvenile justice that is much more focused on efficient processing or removal of cases, than on the youths themselves. The bureaucracy can be self-serving in employing vast numbers of practitioners, with the youths themselves as ancillary considerations. In keeping with bureaucratic interests, there tends to be a "rush to judgment" with concomitant incentives to "cut corners" with regard to adolescents' legal and personal interests.

Ethical problems in the operation of juvenile justice are patent. The deontological ethics and rights-based ethics upon which ostensibly juvenile justice is founded are sometimes substantially compromised in the interests of bureaucratic goals. Perhaps an approach based in feminist ethics, with its emphasis on moral sentiments like compassion and sympathy, could engender reform that reflects some of the nobler original theoretical underpinnings of juvenile justice.

Many of the changes recommended by the study's participants are highly consistent with feminist ethical approaches and with restorative justice approaches. Participants suggested that rather than largely pre-judging youth and increasingly ostracizing them from juvenile justice processes, juvenile justice should pay greater attention to listening to youth and taking an interest in them. Ideas of participants emphasized mentoring and showing youth that people care about them. Those kinds of approaches may go much further in reducing juvenile crime than the more common scheme of rapid judgment and official ostracism.

Exploratory research of this nature contains a number of limitations. Though participants' experiences of juvenile justice spanned a few states, the fact remains that the study involved a small sample from one prison. Also, sampling was limited to the relatively small proportion of inmates whose juvenile histories were accessible through prison records. As commonly occurs in qualitative research, the findings are not intended as widely generalizable. Rather,

they provide rich information on the particular experiences of a set of men who are relatively difficult to access, yielding insights that are not adequately disclosed in less personalized approaches.

Additionally, though the author took pains to write notes, using the actual language of participants as much as possible, the inability to tape-record the interviews affects the ability to understand precisely what participants said. The observations and insights of the prisoners themselves may be inaccurate, due partly to the passage of time and the influence of subsequent experiences, such as incarceration in a maximum-security facility. From a phenomenological perspective, though, everything about the stories is significant in that each participant "is speaking a form of truth—his own truth—constructed according to what is meaningful for him" (Skrapec 2001:54). Finally, the juvenile experiences of participants occurred primarily in the 1990s, during times of moral panic over youth violence, so they may not reflect precisely how youths in juvenile justice are treated today.

In spite of these limitations, the experiences and perceptions of persons for whom juvenile justice has not "succeeded" raise important policy concerns. Indeed, these tend to be the youth with whom the "system" has not done a good job, both in terms of juvenile processes and in terms of their multiple socioeconomic disadvantages. Rather than transforming juvenile offenders into productive citizens, juvenile justice interventions paradoxically can be iatrogenic, doing further violence to their possibilities and beings.

These men's experiences militate against heavy investment in juvenile justice as a type of "crime control industry," or "prison-industrial complex," that provides financial security for a host of criminal-justice practitioners, agencies, and institutions, while offering little in terms of guiding youth toward non-criminal futures. Processing youth as faceless "delinquents" through arcane legal machinations they do not understand, embittering them with hypocrisy about "rights," and placing them in juvenile facilities of marginal rehabilitative value (or worse, in adult facilities where they know psychological terror)—such do not seem proper ingredients in a recipe for long-term reductions in youth criminality. Rather, consistent with the suggestions of participants who have lived through the failures of the system, it is much more prudent at least to attempt to address the enervating net of social pathologies that so commonly encompasses their lives, including poverty, joblessness, disrupted families, substance use, and alienation from school.

Consistent with the noblest ideals of juvenile justice, troubled youth are still malleable to ministrations that can change their lives for the better: mentors who take a sincere and enduring interest in them; safe havens from the social and emotional storms they confront so often; programs that alleviate abject poverty and its attendant disadvantages; schools that provide hope for meaningful futures. These efforts are apt to do far more to reduce serious delinquency than wholesale processing of stereotypical youth through impersonal, degrading, and primarily punitive processes.

Endnotes

[1] This is in contrast to juveniles, who would be assessing their experiences *in medias res* and who presumably lack some of the maturity and insight that are supposed to accompany adulthood.

[2] More likely than not, the computerized file contained no information at all about juvenile history or placement. If a prisoner had not been considered for parole or had not recently been admitted to the prison, there likely was no juvenile information.

[3] The study protocol, including the consent form, was approved by an Institutional Review Board after full review, which included affirmation from a long-time prisoner advocate that in her view the protocol posed no potential for harm to the prisoners.

[4] The sizable quantity of textual data obtained from the interviews was analyzed for recurring themes with the aid of software (NVivo 8) for coding and organizing text. All interview transcripts were loaded as source documents. Themes and patterns were sought via the coding process, initially using "free" coding and then batching similar codes as "tree" coding.

[5] Throughout this article, pseudonymous initials are used to identify participants; the initials for juvenile-lifer participants are shown in boldface italic type.

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Structural Shifts in Select Determinants of Crime with a Focus on Rural and Urban Differences

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Abstract: *In this study we offer a unique test of structural shifts in the influence of poverty and income inequality on crime rates. Using U.S. county level data drawn from the 1990 and 2000 centennial censuses and the FBI Uniform Crime Reports we uncover structural differences in the determinants of crime across rural and urban counties as well as differences across violent and property crimes. We find that over time there have been significant structural shifts in the influence of traditional socioeconomic predictors of crime. In addition, we find that income inequality outperforms poverty measures in terms of predicting changes in crime rates.*

Keywords: structural shifts, crime rates, poverty, inequality

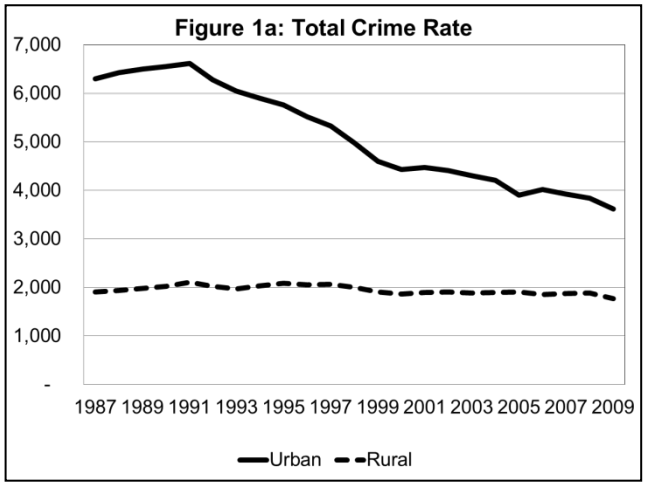
INTRODUCTION

The criminology literature is vast and richly interdisciplinary. Theories aimed at helping understand patterns of crime range from social disorganization, anomie or strain to rational choice theories plus a wide collection of Marxist based theories falling within the area of criminal justice. While these theoretical perspectives provide criminologists and policy makers with a broad picture of what might drive crime patterns, much of the ecological empirical literature is often inconclusive at best and contradictory at worse (Chiricos 1987; Land, McCall and Cohen 1990; Patterson 1991; Barnet and Mencken 2002; Bausman and Goe 2004; Phillips 2006; Deller and Deller 2010). As outlined by Mazerolle, Wickes and McBroom (2010) the movement from macro, ecological or community perspectives such as the Chicago School of social disorganization theory to micro or individual perspectives represented in anomie and rational choice theories has been driven largely by inconsistent and contradictory empirical results.

The problem of inconsistent and contradictory empirical results is compounded in the handful of studies that focus on rural crime patterns (Petee and Kowalski 1993; Rephann 1999; Jobes 1999; Osgood and Chambers 2000; Lee and Ousey 2001; Reisig and Cancino 2004; Wells and Weisheit 2004; Li 2009; Deller and Deller 2010; and Lee and Thomas 2010). The statistical patterns that tend to appear in urban focused studies tend to not hold when examining rural crime. For example, in a study comparing the role of poverty concentration on rural and

urban crime, Lee, Maume and Ousey (2003) find that urban higher poverty concentrations are associated with higher violent crime rates, as predicted by theory. But rural poverty concentration plays no role in helping explain violent crime.

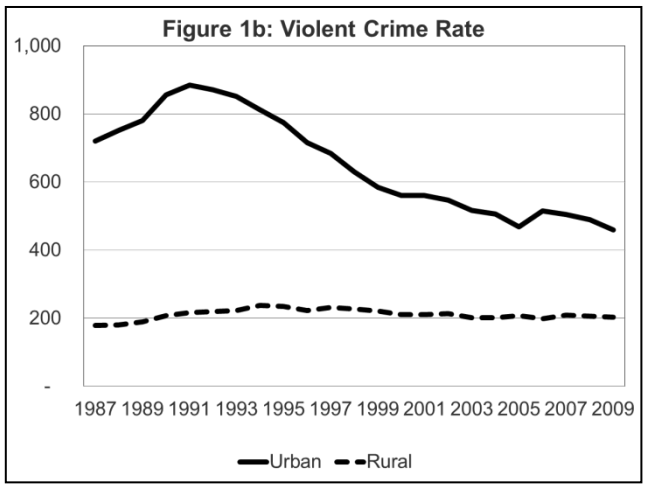
A simple contrast in trends for urban and rural areas across the U.S. makes clear that rural has not benefited from the same decline in crime experienced in urban (Figures 1a, 1b and 1c).[1] Using the FBI Uniform Crime Reports (UCR), the change in the total crime rate (violent and property crime) for urban counties from 1987 to 2009 there was an overall decline of 42.5 percent. This includes a 36.9 percent decline for violent crime (willful homicide, forcible rape, robbery and aggravated assault) and 43.3 percent for property crime (motor vehicle theft, robbery and larceny). Over the same time period total crime for rural counties did not experience similar declines and generally remained constant. Total rural crime decline by 6.7 percent and property crime declined by 8.8 percent but violent crime increased by 13.7 percent (see Donnermeyer 2007 for more detailed discussion of these general trends along with Blumstein and Beck 2000 and Quimet 2002).



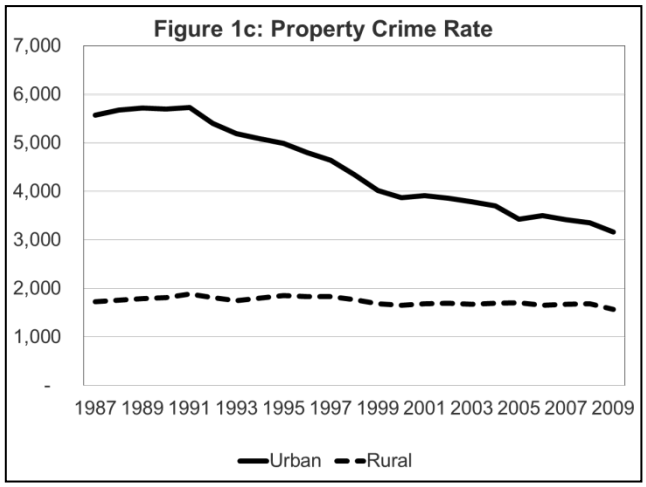
***Source*: FBI UCR various years. Total Crime per 100,000 population as Defined in the FBI Uniform Crime Reporting System**

This is troublesome because a comprehensive theory of crime should result in consistent predictions and observations across urban and rural. If our theories can help us understand the decline in urban crime, why does this same understanding not play out in rural crime rates? Alternatively, the discrepancy between urban and rural studies may simply lend additional evidence that the empirical ecological criminology literature provides inconsistent and at times contradictory conclusions. Given the richness of the empirical literature one would expect to find a number of "empirical truths" but alas, such "truths" are few and far between.

There have been numerous reasons offered for why the ecological empirical literature might be considered inconsistent, including but not limited to aggregation bias in the definition of crime (e.g., aggregating violent and property crime rates), to inconsistency in variable measurement (e.g., multiple ways to measure income), to multicollinearity (e.g., simply too many variables considered at once), to limitations of the crime data itself.



***Source*: FBI UCR various years. Violent Crime per 100,000 population as Defined in the FBI Uniform Crime Reporting System**



***Source:* FBI UCR various years. Property Crime per 100,000 population as Defined in the FBI Uniform Crime Reporting System**

One explanation offered by Phillips (2006) points to discrepancies between cross-sectional and longitudinal studies. She observes that "cross-sectional studies reach different conclusions regarding several key relationships than those of longitudinal approaches" (p.949) and that when one looks within each methodological approach inconsistent empirical results are much less common. She

concludes that cross-sectional studies capture permanent effects while longitudinal studies capture temporary relationships and thus require alternative interpretations.

We hypothesize that over time there are structural shifts in how socioeconomic characteristics are related to crime. In other words, factors that were strong drivers of crime 20 or 30 years ago are not as relevant today. Could it be that 30 years ago crime was largely a function of poverty and today the underlying causes are more complex? Could changes in public policies, both within and outside the criminal justice system, alter the underlying drivers of crime? Could peoples' attitudes toward criminal activity change over time? We suggest that if there are structural shifts in the relationship between socioeconomic characteristics and crime insights into those shifts cannot be predicted through theoretical developments but can only be gained through empirical experimentation.

The intent of the research offered here is threefold. First, we offer a formal model of structural change with the idea that the relationship between key socioeconomic variables and crime has changed over time (for this study the change between 1990 and 2000). Second, we look to differences in these relationships between urban and rural areas. If there exists significant differences between the urban and rural model this suggest that studies which combine urban and rural areas may be introducing structural bias into the models. By focusing attention on rural we hope to address a weakness in the literature identified by Lee and Ousey (2001), Lee, Maume and Ousey (2003) and Donnermeyer, Jobes and Barclay (2006); specifically rural crime has largely been ignored by criminologists. Lee and Thomas (2010) note that although there has been growing interest in rural crime, the available empirical rural criminology literature is still too narrow to draw any reasonable conclusions. Third, we want to focus our discussion on the role of income, specifically poverty and income distribution. When one looks to common themes through the three core theories of criminology income, poverty and income distribution rise to the top. Throughout the 1990s poverty rates and levels of income distribution have been moving in opposite directions; poverty rates have been declining and income inequality has been increasing. As we will see in our brief review of the theories, declining poverty should drive crime rates lower while increasing inequality should push crime rates up; in the end the net impact becomes an empirical question.

Because our focus on income inequality is at the county level, we are limited to using data from the decennial census years 1990 and 2000. While more current crime data, specifically the FBI Uniform Crime Reports, along with a range of socioeconomic data including poverty, income and unemployment estimates are available, the quality of the income distribution data outside the decennial censuses is suspect. So for this study, we use U.S. county level data from the 1990 and 2000 censuses along with data from the FBI Uniform Crime Reports.

Beyond these brief introductory comments the study is composed of four parts. Next we outline the three core theories of criminology with a focus on the role of poverty and income inequality. In the following section of the study we offer our model of structural change as well as our empirical specification of the model. Finally, we discuss our empirical results and close the study with a discussion of the implications of our work.

THEORETICAL AND EMPIRICAL BACKGROUND

Criminology is both blessed and cursed with a vast range of theoretical perspectives (Berger, Free and Searles 2005). By having an array of different theoretical approaches or views of crime, researchers have a rich literature upon which to draw. The problem, however, is that many of these theories are contradictory and are difficult to rigorously test. As observed by Vold, Bernard and Snipes (2002), there is disagreement within the criminology literature as whether theorist should work on triangulating competing theories looking for common ground or whether a falsification process should be followed where competing theories are pitted against each other, and the theories with the greater predictive powers are allowed to stand.

A further complicating factor is the different approaches to thinking about theoretical and empirical research within the parent disciplines of criminology including sociology, economics, political science, anthropology and psychological. On the one hand, movement toward interdisciplinary approaches provides a systems or holistic way of thinking about the problem, but on the other hand it can pit theoretical and methodological approaches against each other. While the movement to interdisciplinary work is slowly seeing a blending of approaches, each of the parent disciplines have "certain perspectives" for approaching the questions at hand. This raises the question: is triangulation of approaches creating more light or smoke in our understanding of the drivers of crime, particularly rural crime?

From our perspective there are three core or umbrella theoretical approaches in explaining crime: the Chicago School of social disorganization which takes a macro, ecological or community perspective and two micro or individual focused theories, anomie or strain, and rational choice. Although each approach tackles crime from a different direction there are significant and important overlaps. Social disorganization or social cohesion theory, widely known as the Chicago School of Criminology due to the pioneering work of Park and Burgess (1925) and Shaw and McCay (1931, 1942, 1969) and their studies of

crime in Chicago, emphasizes social, economic and political forces at the macro, ecological or community level. Attention is focused on social capital broadly defined and notions of density of acquaintance across the community, village or neighborhood and is concerned with the socioeconomic deterioration of places and the social ties that link neighbors (Thorbecke and Charumilind 2002; Lederman, Loayza and Menendez 2002; Bouffard and Muftic 2006).[2] Spano and Nagy (2005) suggest that social disorganization theory can be restated simply as structural factors influence social networks which in turn influence social control. Social control in turn drives crime. As noted by Wells and Weisheit (2004), Donnermeyer (2007) and Li (2009), social disorganization theory has dominated the sociology literature that has examined rural crime. Indeed, Bellair and Browning (2010:497) conclude that "[s]ocial disorganization theory is one of the oldest and among the most well-respected sociological approaches to community crime." Still, many such as Reisig and Cancino (2004), argue that social capital is too broad of a concept with respect to crime and should be more narrowly focused.

Sampson (2002, 2006) has argued that the notion of the village, neighborhood or community underpinning social disorganization theory is outmoded and to fully understand crime one must look at the behavior at the micro or individual level. Lee and Thomas (2010) and their study of U.S. rural crime follow the lead of Tolbert and his colleagues (1998, 2002, 2005) and talk in terms of "civic community". Here the idea of social networks (i.e., the community, village or neighborhood), a key element to social disorganization theory, is not sufficient to understand crime. Rather one must think in terms of the willingness of the individual to become engaged in the community in a civic manner. The idea is that there is a fundamental difference between being "networked into the community" and willingness to engage. Mazerolle, Wickes and McBroom (2010) build on the work of Sampson (2002, 2006) and talk of "collective efficacy" and the willingness of individuals to become engaged. Social networks are insufficient to deter crime and there must be a willingness to become engaged which acts as a deterrent to criminal activities. Belliar and Browning (2010) use the terminology of "informal control" and argue that the concept of social networks is not sufficient. By moving beyond the broad-based idea of social disorganization theory and the role of social networks (or community, village or neighborhood) to think in terms of "civic community," "collective efficacy" and "informal control" helps focus on the willingness of the individual to become directly involved in helping deter crime. This can range from the willingness to participate in neighborhood watch programs and calling the police, but also willingness to work with the police to help solve and prosecute crime.

In certain inner-city neighborhoods, the trend toward "don't snitch" is a movement away from community engagement. While social networks or social capital may be strong people are unwilling to be engaged when it comes to working with police to help solve crime. In rural areas, density of acquaintance, can be high and everyone knows everyone else, but residents may be unwilling to engage law enforcement if a crime is committed. Rural residents are more likely to keep community problems to themselves by viewing crime as a personal matter and not seek the help of law enforcement agencies (Laub 1981). As noted by Weisheit and Donnermeyer (2000), rural law enforcement personnel often voice frustration because of the conservative nature of many rural residents. Many people in rural areas simply prefer to handle their own problems without seeking help from "outside". In a sense, social networks, density of acquaintance or social capital can be high but engagement with respect to crime may be low.

Anomie or strain theory focuses on conflicts between goals and means to achieve those goals (Fay 1993). Unlike social disorganization theory that looks at macro or community (i.e., village or neighborhood) level, anomie theory tends to focus on individuals and behavior of those individuals within the community. While "civic community," "collective efficacy" and "informal control" focus on the willingness of the individual to become directly involved in helping deter crime, anomie theory focuses on the thinking of the potential criminal. In what Baumer and Gustafson (2007) refer to as Merton's (1938, 1968) classic anomie theory there exists conflicts between the economic desires of the individual and the ability to achieve those desires. Unequal distribution of economic resources, wealth and/or income creates an "envy affect" (Kelly 2000) where those at the lower socioeconomic spectrum are jealous of those that have higher socioeconomic status. There is a level of frustration where the poor either do not have the skills or the means to achieve higher levels of income and/or wealth. Unsuccessful individuals become alienated from the community, social norms from the individual's perspective come into question, and the strain results in criminal activity.

An additional element of anomie theory is the explicit allowance of acceptable alternative means to achieving an end, referred to as innovation by Merton (1968). A traditional example used within the literature is the powerful draw of illegal drug activity in the presence of few economic opportunities. While drugs are generally associated with urban crime, the rise of methamphetamine in many rural communities is creating a rural parallel (Weisheit 2008). For low income persons, generally youth and young adults faced with the choice of achieving limited economic success through low paying service jobs, the potentially highly profitable illegal drug trade become very attractive. Classical anomie theory suggests that within stressed economic situations (e.g., unemployment, low employment opportunities, poverty, high levels of

income inequality) any means possible to achieve one's goals becomes acceptable behavior.

Baumer and Gustafson (2007) assert that there has been a resurgence of interest in anomie theory as it relates to crime due to the introduction of "institutional" or "contemporary" anomie theory as developed by Messner and Rosenfeld (1994/2001/2007, 1997, 2006). While Merton focused on economic conditions (i.e., economic conflict, economic inequality, economic envy effects) contemporary anomie theory introduces the role of non-economic institutions such as education, political entities and family. Social structure, as thought about through these institutions, matters. In the end, crime is a product of the balancing of these different institutional elements. If economic outcomes dominate, and a philosophy of "the ends justify the means" is acceptable, then crime is acceptable and it will occur. As in social disorganization theory, community engagement through a range of different institutions leads us to ask why crime occurs in one community but not another.

Rational choice theory, which can be traced back to Beccaria's writings in 1764, was introduced into the economic literature by Fleisher (1963, 1966a, 1966b) and Ehrlich (1973), but it is broadly attributed to the Nobel winning economist Gary Becker (1968, 1993). This view of thinking about crime hypothesizes that crime is the product of rational decision making by individuals who are attempting to maximize economic well-being by comparing the benefits of crime versus the costs of apprehension and fines and/or imprisonment. If the potential "loot" is sufficiently large, then the choice to commit a crime is rational. Economists maintain that the power of the rational choice theory is that it is rooted in deductive theory of individual behavior that allows for direct and more exact empirical testing. Formal derivations of the rational choice theory are available in Chiu and Madden (1998) and Chisholm and Choe (2004). On face value classical anomie as advanced by Merton and rational choice theory appear to be two sides to the same theory. What separates the two is the notion of conflict and envy effects. In classical anomie theory and more explicitly institutional anomie theory, socially acceptable behavior plays an important role; economic frustration overrides what the individual may view as socially unacceptable behavior. Despite the moral threshold of the potential criminal being included in the cost-benefit calculations of the potential criminal, in traditional rational choice theory norms and acceptable behavior are delegated to the backburner.

More recent derivations of the rational choice theory; however, have formally introduced the concept of social capital in the spirit of anomie and social disorganization theory (Fajnzylber, Lederman and Loayza 2002; Lederman, Loayza and Menéndez 2002; Messner, Baunmer and Rosenfeld 2004; Matsueda, Kreager and Huizinga 2006; Deller and Deller 2010). Here social capital directly enters into the likelihood of being captured. Ignoring the complexities of institutional anomie theory, communities with higher levels of social capital are more likely to have neighbor watch-type programs or are willing to work with law enforcement agencies when investigating a crime. Potential criminals will explicitly consider levels of social capital and avoid communities with high levels. In essence, enhanced levels of social capital increase the risk of being caught; hence reduce the incentive to commit crime. Unfortunately, as far as we are aware, the important notions of "civic community," "collective efficacy" and "informal control" briefly outline above have not been formally introduced into the rational choice framework. As currently structured, higher levels of social capital are interchangeable with civic engagement. Although outside the scope this applied study, social capital augmented rational choice theories need to be refined to think in terms of engagement.

An anomie-type interpretation could also be inferred from these social capital augmented rational choice theories. If social capital is high within a community, one could argue that there are higher levels of positive peer pressure; thus raising the moral threshold of the potential criminal; the ends do not necessarily justify the means. Within the rational choice framework going against one's moral values would be interpreted as a cost of committing the crime. Alternatively, higher levels of individual frustration through not achieving individual goals may cause one to question their moral position in committing crime. If the social capital of the community is low or deteriorating, coupled with frustration and/or envy, an individual person's moral threshold may be lowered thus lowering the personal cost of committing a crime.

What is important here is how the three theories overlap. Common to all three are social capital and community norms along with limited economic opportunities or poverty and high and/or raising levels of inequality. The latter two are of particular interest to this study, specifically economic marginalization (poverty), unemployment, economic inequality and economic instability. Income, or more specifically the characteristics of income, is perhaps one of the most commonly used explanatory variables in thinking about and empirically modeling crime. Unfortunately, theory does not provide us with any insight into which measure of income is most appropriate. As noted by Chisholm and Choe (2004) income measures have ranged from median and average family income to median and average household income to per capita income to wages. Some studies have found that higher levels of average income tend to be associated with lower levels of crime (e.g., Reilly and Witt 1996; Gould, Weinberg and Mustard 2002; Deller and Deller 2010). There are other studies, however, that find higher income is associated with higher crime (e.g., Rephann 1999; Fajnzylbwe, Lederman and Loayza 2002; Mazerolle, Wickes and McBroom 2010).

Economic marginalization, often measured through poverty data, plays a role in each theoretical approach. In social disorganization theory, poverty is associated with populations where social cohesion and density of acquaintance is weak and the social norms, or levels of social capital, required to deter crime are weak. One could also argue that communities with higher poverty rates are likely to have lower levels of "civic community," "collective efficacy" and "informal control". In classical anomie theory, people in poverty are subject to envy effects and may pursue criminal activities as a mean to achieve desired outcomes. In institutional anomie theory, the counter balancing political, educational and family institutions are likely to be weak. In rational choice theory people in poverty may see a greater benefit from crime than lost opportunities if captured. Patterson (1991) notes that although the empirical literature has been somewhat inconsistent, the ideas advanced by the theories concerning economic marginalization tend to be supported. Patterson (1991) further notes that the primary difference between studies that find inconclusive and consistent results hinges on the definition of crime under consideration. It is generally accepted now in the empirical criminology literature that the factors that affect violent crimes such as rape are different than those that affect property crime such as burglaries.

Income distribution has been a major focus of studies on crime (e.g., Kennedy, et al. 1998; Carcach 2001; Thorbecke and Charumilind 2002; Pratt and Godsey 2003) and is widely included as a control variable (e.g., Lederman, Loayza and Menendez 2002; Fajnzylber, Lederman and Loayza 2002; Baumer and Gustafson 2007; Li 2009; Deller and Deller 2010). Consistent with the rational choice framework of crime, Ehrlich (1973) uses income inequality as a proxy for opportunity costs. Individuals at the low end of the income distribution may be more prone to commit crime because the potential pay-off is greater in terms of forgone wages if arrested and imprisoned. Ehrich (1973), along with Fleisher (1966a), Fajnzylber, Lederman and Loayza (2002) and Kelly (2000), finds that higher levels of income inequality are statistically linked to higher levels of crime. At the heart of classical anomie theory is the inequality of economic resources (or income inequality) which creates envy effects and conflict which can lead to crime. Social disorganization theory maintains that higher levels of inequality will lower overall social capital or create situations where social conflicts can occur within the community and provides an additional theoretical link between higher levels of inequality and crime (Kawachi and Kennedy 1997; Deller and Deller 2010). Unfortunately, the empirical results are not always consistent with the theoretical expectations.

Unemployment, or more precise sustained periods of unemployment, follows the same pattern as poverty across all three theoretical approaches. In a review of sixty empirical studies of crime Chiricos (1987) found that unemployment rates are a strong predictor of property crimes but have a poor relationship to violent crimes. This follows from both rational choice theory as well as classical strain theory. Some works, such as Carcach (2000), Deller and Deller (2010), Gould, Weinberg and Mustard (2002) and Reilly and Witt (1996), confirm these general results but others such as Timbrell (1990), Field (1990), Pyle and Deadman (1994) and Bausman and Goe (2004) have not confirmed this relationship.

While the bulk of the empirical literature tends to support the central hypotheses that flow from the overlapping areas of the three core theories of crime, there are sufficient inconsistencies and contradictions to cast a shadow over the ecological empirical literature. Several ideas have been advanced to help think about the limitations including inconsistencies in variable definitions across studies, measurement errors with the crime data itself,[3] inappropriate units of analysis (e.g., county versus municipality versus neighborhood), differences in disciplinary approaches to empirical work, limitations to statistical methodologies, inability of the data to adequately capture the underlying concepts of the central theories, and serious problems of endogeneity.[4] Perhaps Putnam's (2000: 137) observation that the arrows of causation when thinking about social capital are "as tangled as well-tossed spaghetti" lies at the heart of the most fundamental problem of the empirical literature. Indeed, in a number of regional economic growth studies, crime rates are used as a proxy for social capital (see Deller and Deller 2010 for a detailed discussion); raising the question: which direction does causation flow? One could also reasonably suggest that the shear volume of empirical studies will inevitably result in some inconclusive and inconsistent results.[5] Perhaps more directly, the difficulty in identifying "empirical truths" has been a source of frustration. When minor changes in variable definitions or methodological approaches can alter results and policy insights, a cloud is cast over the whole of the literature.

In this work we offer two alternative issues that may help us understand the inconclusive findings and inconsistencies found in the macro or ecological empirical criminology literature. The dramatic shift in crime rate trends (e.g., Figures 1a, 1b and 1c) suggests that there has been a fundamental, or structural, shift in how key socioeconomic variables are related to crime. It is not unreasonable to expect that during periods of increasing crime rates the relationship of income, poverty, income inequality and unemployment to crime is different than during periods of declining crime rates. In the spirit of Phillips (2006), we suggest that the underlying statistical relationship between key socioeconomic variables and crime rates are sensitive to trends in crime levels. By rigorously comparing and contrasting statistical

relationship at the beginning and end of a sufficiently long time period we can uncover evidence of structural shifts.

There are three possible forms that these structural shifts can take. The first is a shift in significance levels where the variable of interest is statistically insignificant in one period and significant in another. In other words, in one period the variable appears to influence crime rates, but in another period it has no influence. The second case is that the parameter associated with the variable of interest becomes more or less intense in its effect. For example, during a wider economic expansion, unemployment may play a more modest role in understanding crime than during periods of economic recession. In the third case parameters of interest can actually change sign over the study period which is perhaps the most troublesome possibility. It is possible that a variable having a negative influence at the beginning of the period has a positive influence at the end of the period. Any of these three potential results would suggest that empirical observations relating socioeconomic variables to crime are sensitive to the time period examined; results that may have held in an earlier period may not hold today or sometime in the future. These structural shifts can be particularly frustrating from a policy perspective. If policies aimed at reducing poverty placed downward pressure on crime in the 1960s and 1970s, but today have little influence, one could ask: were those policies misdirected or has the situation simply changed?

More relevant to the study reported here, Bausman and Geo (2004) argue that one of the reasons for the inconsistent empirical findings in the ecological criminology literature is the predominance on statistic cross-sectional models. They argue that a more dynamic dimension needs to be introduced, such as that adopted by Gould, Weinberg and Mustard (2002) and fully examined in Phillips (2006). If crime rates tended to be stagnant and not drifting upward or downward, static cross-sectional studies may make sense but given the well-known decline in crime rates (Figure 1), it is clear that there is a dynamic process at play. Indeed, when one thinks about social disorganization theory, it is the changing dynamics of the community that drives crime.

We also build on the work of Rephann (1999) among others by drawing attention to the differences between urban and rural crime. From the simple descriptive analysis two facts are clear: rural crime tends to be significantly below urban crime rates and rural areas on average did not experience the significant decline in crime rates found in urban areas. We concur with Wells and Weisheit's (2004: 1.) claim that "[d]espite a growing interest in rural crime it remains an under-studied issue" along with Donnermeyer (2007: 2) that "[r]ural crime has long been a neglected topic in criminology" from both a theoretical and empirical perspective. If there are structural changes in the drivers of urban crime that can be used to help explain the remarkable decline in urban crime rates, it is clear from the prima facie evidence in Figure 1 that those changes cannot help us understand rural crime patterns.

Unfortunately, there is strong evidence that crime is widely underreported in rural areas and several hypotheses have been advanced to explain this phenomenon (Weisheit and Donnermeyer 2000). In many rural areas, the presence of law enforcement is limited to a restricted resourced county sheriff who is responsible for large geographic areas. In this case, rural residents may view the reporting of a crime to have minimal use. There is also evidence that rural areas are more governed by a form of informal social control. In a study of rural crime, Smith (1980) found that shoplifting and rural theft were rarely reported to the police and in most cases handled informally. Smith reported on the frustration of rural law enforcement officers with the lack of turning to their offices for help when a crime has been committed. Because everyone "knows everyone else" in rural areas, or density of acquaintanceship is high, people are more inclined to deal with crime through informal mechanisms. As noted earlier, rural residents are more likely to keep community problems to themselves by viewing crime as a personal matter and not seek the help of law enforcement agencies which has been a large source of frustration for rural law enforcement personnel (Weisheit and Donnermeyer 2000).

In summary, by triangulating the three core theories of crime, we focus on how levels of economic well-being influence crime rates with particular attention to measures of poverty and economic inequality. Given then dramatic "U-turn" in crime rates we suggest that there are structural shifts in how our base variables of interest affect crime over time. The failure to capture these structural shifts has hindered the available empirical literature. Finally we draw attention to the urban-rural dichotomy.

A MODEL OF STRUCTURAL CHANGE

There are several approaches that can be used to test for structural changes and the one that we offer has been used to test for structural shifts in how local governments treat intergovernmental aid (Deller and Walzer 1995; Deller and Maher 2006). As far as we are aware, this formulation of modeling structural shifts has not been previously used in the criminology literature.

We begin by specifying a relationship between the crime rate (C), a set of core variables (I) and second set of policy variable (S) that we alter over different specifications of the model, over two time periods (t and t-1):

$$C_{t-1} = \beta_{t-1}I_{t-1} + \alpha_{t-1}S_{t-1} + \delta X + e_{t-1} \quad (1)$$

$$C_t = \beta_t I_t + \alpha_t S_t + \delta X + e_t. \quad (2)$$

Here X is a set of control variables whose relationship is hypothesized to have remained constant over time and e is a well-behaved error term. Combining the two equations to obtain change over time yields:

$$C_t - C_{t-1} = \beta_t I_t + \alpha_t S_t + \delta X - \beta_{t-1} I_{t-1} - \alpha_{t-1} S_{t-1} - \delta X + e_t - e_{t-1} \quad (3)$$

Rearrange terms and we have

$$(C_t - C_{t-1}) = (\beta_t I_t - \beta_{t-1} I_{t-1}) + (\alpha_t S_t - \alpha_{t-1} S_{t-1}) + (e_t + e_{t-1}) \quad (4)$$

Note that the set of control variables (X) drops out of the analysis. Given our framework there is no change in the influence of these control variables over time hence they are removed from the analysis. Now add and subtract $\beta_t I_{t-1}$ and $\alpha_t S_{t-1}$ which yields:

$$(C_t - C_{t-1}) = (\beta_t I_t - \beta_{t-1} I_{t-1}) + (\beta_t I_{t-1} - \beta_t I_{t-1}) + (\alpha_t S_t - \alpha_{t-1} S_{t-1}) + (\alpha_t S_{t-1} - \alpha_t S_{t-1}) + (e_t + e_{t-1}). \quad (5)$$

Rearrange terms and simplify:

$$(C_t - C_{t-1}) = (\beta_t - \beta_{t-1}) I_{t-1} + \beta_t (I_t - I_{t-1}) + (\alpha_t - \alpha_{t-1}) S_{t-1} + \alpha_t (S_t - S_{t-1}) + (e_t + e_{t-1}). \quad (6)$$

Define $\Delta C \equiv (C_t - C_{t-1})$, $\Delta\beta \equiv (\beta_t - \beta_{t-1})$, $\Delta I \equiv (I_t - I_{t-1})$, $\Delta\alpha \equiv (\alpha_t - \alpha_{t-1})$, $\Delta S \equiv (S_t - S_{t-1})$ and

$\varepsilon \equiv (e_t - e_{t-1})$ and the equation to be estimated can be stated as:

$$\Delta C = \Delta\beta I_{t-1} + \beta_t \Delta I + \Delta\alpha S_{t-1} + \alpha_t \Delta S + \varepsilon. \quad (7)$$

Our empirical model then focuses on the crime rate for two time periods, core variables for two time periods and finally our socioeconomic measures for two time periods.

We offer four specifications of equation (7) with three base variables appearing in each specification including (1) population, (2) median household income and the (3) unemployment rate. The socioeconomic measures that define our four different specification include the (1) overall poverty rate, (2) youth poverty rate, (3) Gini coefficient of income distribution and (4) ratio of number of low income households (income less than $15,000) to the number of high income households (income more than $100,000) (see Appendix A for simple descriptive statistics on each of the variables used in this analysis). By slightly modifying the specification of the model we can also gain insights into concerns of other researchers that the ecological empirical studies of crime have fallen prey to multicollinearity (Land, McCall and Cohen's (1990); Wells and Weisheit's (2004); Lee and Ousey (2001); Lee, Maume and Ousey (2003); Lee and Bartlowski (2004); Lee and Thomas (2010)). If the results on the three base variables are sensitive to small specification changes then some credence is given to the claim of multicollinearity.

We estimate three versions of each model specification using the whole collection of counties in the U.S., or a pooled model (n=2,808), the subset of urban (metropolitan, n=973) counties and finally the subset of rural (nonmetropolitan, n=1,834) counties.[6] Finally, we look at change in the total, violent and property crime rates. We estimate a total of 36 separate models. The beginning of the period is 1990 and the end of the period is 2000. As we noted above, we model the 1990 to 2000 time period because the quality of the income inequality data for U.S. counties outside of the decennial census years is questionable. We also maintain that the 1990 to 2000 time period is sufficiently long to capture structural shifts. In other words, if there are structural shifts in how population, income, unemployment, poverty and income distribution affect crime we should capture them over this time period.

EMPIRICAL RESULTS

The structural change models tend to perform well overall with the equation F statistic significant at or above the 95 percent level of confidence in all of the estimated models (Tables 1 to 4). The percent of the variance in the change in crime rates explained; however, tends to be low with R^2 ranging from 0.063 to 0.1359. Thus, the models consistently explain less than 14 percent of the variation in changes in crime rates. We do find, however, that the R^2s and F statistics are consistently higher for the models using the subset of urban counties when compared to the models using only the rural data. This simple comparison does lend some evidence that the data seems to fit the urban model better than the rural models. Clearly we have purposely kept the specification of the models simple and have not included numerous variables that have been used in other studies such as ethnic composition of the community, economic structure, or various measures of social capital. Including a wider range of additional control variables beyond population, income and unemployment could increase the explanatory power of the models. But by focusing on a simpler specification, we can focus the research question and minimize problems such as multicollinearity and endogeneity.

To rigorously test for differences between the pooled, urban and rural models, we compute a Chow Test for each of the 12 model specifications. The computed χ^2 statistics range from about 175 for total crime and 104 for property crime to slightly more than 65 for violent crime. There is very little variation in the Chow Test χ^2 statistic over the poverty and income distribution specifications. These results tell us that there are statistically significant differences between rural and urban counties in the U.S. Thus, in our subsequent discussion of individual

Table 1: Structural Change Model With Respect to the Gini Coefficient

	Pooled			Metro			Nonmetro		
	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime
Median Household Income 1989 (Δβ)	0.1386	0.1465	0.1177	0.1821	0.2331	0.1523	0.0417	0.1051	0.1000
	(4.93)	(4.79)	(4.62)	(3.69)	(3.96)	(3.46)	(2.50)	(2.51)	(2.62)
Change in Median Household Income (β)	0.0382	0.0573	0.03112	0.06897	0.11379	0.05775	0.00703	0.00642	0.00811
	(2.36)	(3.25)	(2.12)	(2.59)	(3.58)	(2.44)	(0.29)	(0.27)	(0.37)
Unemployment Rate 1989 (Δβ)	-71.8511	-76.8971	-63.9635	-141.3027	-149.2456	-127.4347	14.4605	-43.1791	-38.0660
	(5.40)	(5.31)	(5.30)	(4.73)	(4.18)	(4.79)	(2.99)	(2.98)	(2.87)
Change In Unemployment Rate (β)	5.1570	10.9296	7.77645	-52.93695	-43.87913	-41.70725	19.28594	26.20386	26.26803
	(0.29)	(0.56)	(0.48)	(1.28)	(0.89)	(1.13)	(1.31)	(1.35)	(1.49)
Population 1990 (Δβ)	-0.0004	0.0016	-0.0002	-0.0004	0.0017	-0.0003	0.00261	0.00259	0.0028
	(2.97)	(10.14)	(2.17)	(3.02)	(8.67)	(2.45)	(3.01)	(2.97)	(3.52)
Change In Population (β)	-0.0046	-0.0082	-0.0045	-0.0030	-0.0064	-0.0030	0.0044	-0.0333	-0.0316
	(5.05)	(8.29)	(5.36)	(2.91)	(5.13)	(3.24)	(7.65)	(7.60)	(7.91)
Gini Coefficient 1989 (Δβ)	-22196.00	-25727.00	-19151.00	-30510.00	-41300.00	-26329.00	-16113.00	-16136.00	-15327.00
	(6.32)	(6.73)	(6.02)	(4.52)	(5.12)	(4.38)	(3.29)	(3.28)	(3.41)
Change in Gini Coefficient (β)	-4526.5210	-4903.0588	-3604.3340	-12061.0000	-12980.0000	-10350.0000	887.2175	953.5227	595.4312
	(1.78)	(1.77)	(1.57)	(2.40)	(2.16)	(2.31)	(0.27)	(0.29)	(0.20)
Intercept	2497.6049	3001.8058	2150.9830	4449.5469	5633.8062	3986.0917	1417.8200	1404.5912	1308.6011
	(5.93)	(6.55)	(5.63)	(4.53)	(4.80)	(4.55)	(2.86)	(2.82)	(2.88)
R squared	0.1030	0.0892	0.0984	0.1359	0.1189	0.135	0.0714	0.0709	0.0723
F statistic	40.19	34.27	38.19	18.98	16.28	18.82	17.54	17.43	17.78
sample size	2808	2808	2808	973	973	973	1834	1834	1834

Absolute value of the t statistic in parentheses.

Table 2: Structural Change Model With Respect to the Ratio of Low to High Income Households

	Pooled			Metro			Nonmetro		
	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime
Median Household Income 1989 (Δβ)	-0.0284	-0.0483	-0.0260	-0.0219	-0.0492	-0.0237	-0.0329	-0.0325	-0.0289
	(4.32)	(6.74)	(4.37)	(2.07)	(3.88)	(2.52)	(3.33)	(3.27)	(3.19)
Change in Median Household Income (β)	0.0067	0.0224	0.0057	0.0087	0.0444	0.0060	-0.0001	-0.0004	0.0012
	(0.66)	(2.02)	(0.62)	(0.56)	(2.38)	(0.43)	(0.01)	(0.03)	(0.10)
Unemployment Rate 1989 (Δβ)	-71.8426	-76.3210	-64.6320	-141.6696	-150.2125	-127.7954	-43.8218	-43.7646	-39.2822
	(5.34)	(5.20)	(5.30)	(4.72)	(4.18)	(4.78)	(2.99)	(2.98)	(2.92)
Change In Unemployment Rate (β)	2.7860	8.2261	4.9444	-54.6908	-47.6416	-43.2492	19.6594	20.6508	20.4893
	(0.16)	(0.42)	(0.30)	(1.31)	(0.96)	(1.17)	(1.02)	(1.06)	(1.16)
Population 1990 (Δβ)	-0.0005	0.0016	-0.0003	-0.0005	0.0016	-0.0004	0.0025	0.0025	0.0027
	(3.31)	(9.72)	(2.50)	(3.25)	(8.32)	(2.68)	(2.85)	(2.82)	(3.37)
Change In Population (β)	-0.0050	-0.0087	-0.0048	-0.0036	-0.0072	-0.0035	-0.0337	-0.0336	-0.0319
	(5.44)	(8.69)	(5.73)	(3.50)	(5.80)	(3.82)	(7.70)	(7.65)	(7.94)
Ratio of Low-to-High Income (Δβ)	6.8037	7.3087	6.0120	19.4126	23.0578	16.9616	1.1148	1.0902	2.2629
	(2.60)	(2.56)	(2.53)	(2.76)	(2.73)	(2.70)	(0.39)	(0.38)	(0.87)
Change in Ratio of Low-to-High Income (β)	6.0012	6.4462	6.6994	18.2454	21.4664	15.9653	0.5437	0.5171	1.7528
	(2.29)	(2.25)	(2.83)	(2.54)	(2.50)	(2.50)	(0.19)	(0.18)	(0.68)
Intercept	213.8037	412.8897	172.4612	99.1022	118.4853	232.7089	418.4531	409.2528	282.8160
	(1.02)	(1.81)	(0.91)	(0.25)	(0.24)	(0.65)	(1.39)	(1.36)	(1.03)
R squared	0.0940	0.0778	0.0905	0.1278	0.1051	0.1274	0.0641	0.0636	0.0647
F statistic	36.29	29.55	34.84	17.67	14.17	17.62	15.63	15.51	15.79
sample size	2808	2808	2808	973	973	973	1834	1834	1834

Absolute value of the t statistic in parentheses.

Table 3: Structural Change Model With Respect to the Poverty Rate

	Pooled			Metro			Nonmetro		
	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime
Median Household Income 1989 (Δβ)	-0.0494	-0.0777	-0.0439	-0.0615	-0.1086	-0.0560	-0.0551	-0.0548	-0.0479
	(6.18)	(8.93)	(6.06)	(4.47)	(6.60)	(4.56)	(4.23)	(4.18)	(4.00)
Change in Median Household Income (β)	0.0017	0.0174	0.0024	0.0132	0.0490	0.0117	-0.0155	-0.0160	-0.0107
	(0.14)	(1.27)	(0.21)	(0.66)	(2.06)	(0.66)	(0.86)	(0.89)	(0.65)
Unemployment Rate 1989 (Δβ)	-53.0103	-50.0695	-49.2335	-119.1048	-111.1332	-112.0063	-30.6223	-30.5029	-28.3190
	(3.68)	(3.19)	(3.77)	(3.61)	(2.82)	(3.81)	(1.98)	(1.96)	(1.99)
Change In Unemployment Rate (β)	13.5695	22.8133	13.6614	-53.5764	-39.3878	-45.5907	27.3485	28.3973	26.9177
	(0.74)	(1.14)	(0.82)	(1.21)	(0.75)	(1.16)	(1.39)	(1.44)	(1.50)
Population 1990 (Δβ)	-0.0005	0.0016	-0.0003	-0.0005	0.0017	-0.0004	0.0024	0.0023	0.0026
	(3.22)	(9.84)	(2.43)	(3.00)	(8.60)	(2.47)	(2.71)	2.68	(3.24)
Change In Population (β)	-0.0049	-0.0085	-0.0047	-0.0038	-0.0073	-0.0037	-0.0330	-0.0329	-0.0314
	(5.28)	(8.44)	(5.61)	(3.65)	(5.93)	(3.97)	(7.50)	(7.46)	(7.80)
Poverty Rate 1989 (Δβ)	-15.6317	-23.7709	-10.9260	-27.2406	-52.4283	-17.2091	-22.0983	-22.3541	-15.9770
	(1.59)	(2.22)	(1.23)	(1.16)	(1.87)	(0.82)	(1.84)	(1.85)	(1.45)
Change in Poverty Rate (β)	-5.3483	-2.7286	-1.9502	23.9653	26.1885	26.6881	-17.9420	-18.3801	-12.4666
	(0.31)	(0.15)	(0.13)	(0.61)	(0.56)	(0.76)	(0.94)	(0.96)	(0.71)
Intercept	1069.3674	1580.9274	875.4933	1661.8242	2543.6930	1449.2305	1403.8538	1400.9558	1096.6408
	(3.49)	(4.74)	(3.15)	(2.73)	(3.50)	(2.68)	(2.86)	(2.84)	(2.43)
R squared	0.0907	0.0766	0.0868	0.1232	0.105	0.1222	0.0642	0.0637	0.0639
F statistic	34.93	29.04	33.25	16.94	14.15	16.79	15.65	15.53	15.59
sample size	2808	2808	2808	973	973	973	1834	1834	1834

Absolute value of the t statistic in parentheses.

Table 4: Structural Change Model With Respect to the Youth Poverty Rate

	Pooled			Metro			Nonmetro		
	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime	Change in Total Crime	Change in Violent Crime	Change in Property Crime
Median Household Income 1989 (Δβ)	-0.0513	-0.0807	-0.0447	-0.0663	-0.1185	-0.0583	-0.0519	-0.0516	-0.0450
	(6.79)	(9.83)	(6.53)	(5.23)	(7.86)	(5.15)	(4.15)	(4.11)	(3.92)
Change in Median Household Income (β)	0.0068	0.0227	0.0053	0.0163	0.0550	0.0130	-0.0054	-0.0059	-0.0035
	(0.57)	(1.73)	(0.49)	(0.86)	(2.45)	(0.77)	(0.31)	(0.34)	(0.22)
Unemployment Rate 1989 (Δβ)	-51.2162	-45.8326	-48.1279	-103.9275	-85.1804	-100.4414	-33.2191	-33.1191	-30.5200
	(3.55)	(2.92)	(3.68)	(3.17)	(2.18)	(3.43)	(2.15)	(2.14)	(2.15)
Change In Unemployment Rate (β)	13.5487	24.3213	13.7429	-44.8355	-25.0366	-38.1887	25.0397	26.0754	25.0981
	(0.74)	(1.22)	(0.82)	(1.03)	(0.48)	(0.98)	(1.28)	(1.32)	(1.39)
Population 1990 (Δβ)	-0.0004	0.0016	-0.0003	-0.0004	0.0018	-0.0003	0.0024	0.0024	0.0026
	(3.03)	10.10	(2.29)	(2.56)	(9.19)	(2.11)	(2.76)	(2.72)	(3.28)
Change In Population (β)	-0.0050	-0.0086	-0.0047	-0.0039	-0.0076	-0.0038	-0.0333	-0.0332	-0.0317
	(5.34)	(8.51)	(5.65)	(3.80)	(6.16)	(4.09)	(7.57)	(7.52)	(7.86)
Child Poverty Rate 1989 (Δβ)	-9.4691	-16.6474	-6.7304	-24.1083	-46.0386	-15.8355	-9.1963	-9.3692	-6.4136
	(1.36)	(2.20)	(1.07)	(1.54)	(2.47)	(1.13)	(1.07)	(1.08)	(0.81)
Change in Child Poverty Rate (β)	7.0131	11.0449	5.1722	33.4781	48.1167	28.8099	-0.8995	-1.2047	-0.6664
	(0.66)	(0.95)	(0.53)	(1.33)	(1.61)	(1.29)	(0.08)	(0.10)	(0.06)
Intercept	1017.0508	1560.3134	832.7697	1744.3876	2744.6387	1482.5072	1107.0317	1104.3779	863.3853
	(3.25)	(4.59)	(2.94)	(2.96)	(3.92)	(2.82)	(2.22)	(2.21)	(1.89)
R squared	0.0919	0.0796	0.0874	0.1306	0.1208	0.1270	0.0634	0.0630	0.0634
F statistic	35.42	30.27	33.52	18.12	16.58	17.55	15.46	15.34	15.45
sample size	2808	2808	2808	973	973	973	1834	1834	1834

Absolute value of the t statistic in parentheses.

parameters, the observed differences between rural and urban are meaningful. Our results support the observation by Lee, Maume and Ousey (2003), Wells and Weisheit (2004) and Lee and Bartkowski (2004) that on face value care must be taken when mingling rural and urban together from either an empirical or policy perspective. In general, the empirical models and the underlying theoretical justifications appear to fit urban better than rural crime trends.

To determine if we have a problem with multi-collinearity we compute condition indices as suggested by Belsley, Kuh, and Welsch (1980). Because multi-collinearity in a regression equation is a mechanical problem with the inversion of the design matrix, the condition index looks at the square roots of the ratio of the largest eigenvalue to each individual eigenvalue. The indices range from 112.13 for the models including the Gini coefficient to 31.06 for the models including youth poverty rates.[7] These results coupled with a cursory review of the stability of the coefficients on the base variables suggest that the results for the Gini coefficient model are suspect. Specifically across the four specifications, the results for the base variables are consistent for the two poverty measures and the ratio of low-to-high income households. We report all of our results for completeness but given this latter result on the Gini coefficient model coupled with the Chow tests on urban-rural differences we can focus our discussion.

When interpreting our results, there are several patterns that we are looking for beyond the urban/rural differences such as our interest in comparing and contrasting the results on poverty and income distribution. At the same time, given the volume of results, it is not practical to discuss all of the individual estimated parameters. Let us focus first on the general results of the on the set of control variables including median household income, unemployment rate and population then turn attention to poverty and income distribution patterns.

The base parameters (β) for median household income tend to be statistically insignificant except for violent crimes in urban area where it is significant and positive. The positive effect on violent crime in urban areas is not consistent with theory but as noted by Patterson (1991) the macro or ecological empirical literature tends to be more consistent with respect to property crime. The structural change parameters ($\Delta\beta$) associated with median household income are all negative and statistically significant across both types of crime as well as urban and rural. This provides strong evidence that there has been a structural shift in how income levels are related to crime. At the peak of the crime rate (about 1990) income did not appear to influence crime but by the end of the decade the relationship changed. It appears that in 2000 higher levels of income, all else held constant, are associated with lower or declining crime rates. This result is consistent with the predictions of all three core theories of crime and suggests that wealthier counties, as measured by median household income, experience lower levels of crime.

For unemployment the base parameter tends to be statistically insignificant. This result is consistent with the findings of Reilly and Witt (1996) as well as Bausman and Goe (2004) who suggest that unemployment alone is not a major determinant of crime. But one must keep in mind that the base parameter is reflective of the relationship at the beginning of our study period. The structural change parameters ($\Delta\beta$) are all negative and statistically significant for both urban and rural. This is the opposite of what we would expect to find given the overlapping of our three core theories; our results suggest that higher levels of unemployment are associated with lower crime rates. Given the results of Bausman and Goe (2004) one could argue that our measure of unemployment is not capturing persistent unemployment and is thus insufficient to capture the true underlying relationship. Specifically, unemployment duration or length of time unemployed better fits the underlying theories. Unfortunately, such data are not readily available at the county level. Regardless of this limitation our results suggest that there have been structural shifts in the relationship between unemployment and crime.

Our results suggest that there is a strong negative base relationship between population and crime which is what we would expect given our simple descriptive analysis outlined in Figures (1a, 1b and 1c). But we draw this conclusion only in hindsight; prior to the remarkable decline in crime rates over the 1990s the "conventional wisdom" is that larger places should see higher levels of crime. The structural change parameter tends to be positive with the exception of property crime in urban areas. This suggests that the positive effects associated with the base parameter are weakening over time, but the weakening is not sufficient to overpower the negative base affect (i.e., $\Delta\beta>0 << |\beta<0|$). In other words, the negative relationship between population size and crime rates is negative in both time periods but the magnitude of the negative relationship is weakening.

We use four measures of inequality and poverty including the Gini coefficient (Table 1), the ratio of low to high income households (Table 2), and both the overall and child poverty rates (Tables 3 and 4 respectively). With respect to the Gini coefficient of income inequality we find that the base parameter is negative for urban counties but statistically insignificant for rural (Table 1). The shift parameter is negative for urban counties and when matched with the statistically weak negative base parameter suggests that higher levels of inequality are associated with lower levels of crime. But for rural areas, the base coefficient is insignificant but the shift parameter is negative and significant suggesting that this inverse relationship between inequality and crime is developing in rural counties. The pattern that higher levels of income inequality as measured by the Gini coefficient is associated

with lower crime rates is unexpected given the three core crime theories. But, given our observations on multicollinearity with the results associated with the Gini coefficient, these empirical results that are contradictory to the theories are suspect and must be discounted.

Our alternative measure of income inequality, the ratio of the number of low-income to high-income households provides results more consistent the predictions of the theories. Specifically, as the ratio increases, or there is a higher proportion of low income relative to high income households, there tends to be higher levels of both violent and property crime in urban areas. Both the base parameter and shift parameters in the urban models are positive and statistically significant. But for rural areas, the parameters are all positive but statistically insignificant. Thus, for urban counties but not for rural an increasing ratio of low to high-income households result in high crime rates and the affect is becoming stronger over the 1990s. This again provides evidence that rural and urban crime is fundamentally different and our theories are insufficient to offer any reasonable explanation as to why.

The results for the overall poverty rate (Table 3) suggest that the base parameter is statistically indistinguishable from zero for both violent and property crime across urban and rural areas. This suggests that overall poverty rates did not have an impact on crime in 1990. The shift parameter property crime is also statistically insignificant for both rural and urban, but is weakly negative for violent crime, again for both urban and rural. Here we can conclude that overall poverty rates tend not to influence property crime rates but could perhaps have a negative association with violent crime. We also see a very similar pattern for child poverty rates where the base coefficient is statistically equivalent to zero for both types of crime and area (Table 4). For rural areas, the shift parameters are insignificant and for urban the parameter is insignificant for property crime. But for violent crime in urban areas the shift parameter is negative and statistically significant indicating that higher levels of child poverty are associated with lower levels of violent crime.

Much like our unemployment measure, the definitions of poverty that determine the values of the variables has been challenged as being somewhat arbitrary and outdated (Sen 1976, 1979; Callan and Nolan 1991; Zheng 1997, 2000; Brady 2003; DeFina 2007). Critiques of the Census derived measures range from thresholds being too low and not reflecting a minimal standard of living, to how the definition of income used to determine poverty is computed, to the headcount nature of the measure. But herein lies a fundamental problem with modeling crime: the theories do not lend any insights into which measure of income, unemployment, poverty or income distribution is the "correct" measure. If empirical criminologists experiment with alternative definitions until the data supports the theories is this not a form of "cooking the results"? But this experimentation can lend valuable insights into alternative ways of thinking about the traditional drivers of crime. For example, Bausman and Goe's (2004) experimentation with different ways of thinking about unemployment expanded our understanding of moving beyond a simple snapshot of the unemployment rate at any given time to thinking in terms of unemployment duration.

Our results complement the work of Lee and his colleagues along with Donnermeyer in finding that there are significantly unique differences between urban and rural crime. While one could argue that the trends outline in Figures 1a, 1b and 1c is *prima facie* evidence that there are fundamental differences between urban and rural crime, the empirical modeling reported here points to specific differences. The data suggest that what may hold true for urban does not necessarily hold for rural areas. Hence, policy insights that may be gained from urban studies cannot be blindly transferred to rural.

Our results also complement the observations of Phillips (2006) in that there are significant dynamic characteristics to the drivers of crime. Our structural shift model identifies several instances where the relationship between core variables is not stable over time. In some instances effects weakened in intensity and in others the effects strengthened. Unfortunately, the theories cannot lend any insight into why these dynamic characteristics may or may not exist. Still, our results suggest that simple cross sectional studies that examine a single time period may yield inadequate results.

CONCLUSIONS

This study on crime has focused on three distinct issues: differences across rural and urban; the impact of socioeconomic well-being on crime rates; and the identification of structural shift in the relationship between traditional explanatory variables used in the ecological empirical criminology literature. Using county level data for the years 1990 and 2000 and a formal model of structural change, we can draw three general conclusions. First, there is strong evidence that there have been structural shifts in how ecological socioeconomic variables are related to crime. Second, there are fundamental differences between rural and urban areas. Third, the relationship between socioeconomic well-being and crime is not as clear as predicted by the three theories of criminology.

While our understanding of the drivers of crime has matured over time (e.g., classical versus institutional anomie theory or social capital in terms of civic engagement) the inability of the literature to come to a set of "empirical truths" has proven frustrating. This latter observation is particularly true for rural crime where the limited available evidence strongly suggests that any "empirical truths" that might be drawn from the urban

literature cannot be directly applied to rural. While the available rural focused criminology literature is slowly growing, it is still too modest to draw any conclusions. We are not ready to conclude that we need new theories of crime that are unique for rural areas, but it is clear additional work on rural crime is needed. What is it about rural that makes it fundamentally different than urban when it comes to crime? Or is it as simple as the quality of the ecological data is not up to the task?

The methods adopted here have proven to be promising but the results are suggestive and clearly additional empirical work is required. For example, we pick two periods in time that coincide with the availability of Census data, specifically quality income distribution data. A systematic examination of different timeframes would lend additional insights into how these structural changes are occurring. For example, all three core theories of crime used in this study suggest that changes over time are important. Our results suggest that time dynamics matter but we can only guess at what those dynamics are or are not. One approach might be to explore distributive lag structures with dynamic changes stepped back in time.

In addition, the FBI Unified Crime Reports have well known deficiencies and the examination of other measures of crime would also prove useful. Unfortunately, these data are considered the best that we have for rural studies outside of focused case-studies. In addition, these crime data are widely used to base policy discussions and decisions. Because we are modeling changes in crime over time the relatively stagnant rural crime rates might be problematic. From the simple aggregate urban-rural crime trends (Figure 1a, 1b, 1c) the noticeable decline in urban crime tells us that there is likely significant variation in the dependent variables of our models. But the stagnant rural crime pattern suggests that there may be little variation in the dependent variables for the rural models. The lack of variation may be causing problems with the statistical analysis.

We have also strategically limited the number of control variables that are examined and omitted variable bias could be a problem. The approach of Lee and his colleagues of combining several variables into "distress" indices may prove fruitful. Rather than including all the theoretically relevant variables at the same time and risking multicollinearity along with potentially distractingly inconsistent results, the researchers could use constructed indices to control for these factors and then isolate key variables of interest. Despite these limitations, this study has offered an alternative way of thinking about the ecological empirical criminology literature.

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Endnotes

[1] Because we use county level data the technical correct terms are metropolitan and nonmetropolitan as opposed to urban and rural. The Bureau of the Census defines counties as metro and nonmetro and places (municipalities) as urban and rural. We will use the terms interchangeably

[2] Following the work of Coleman (1988), Flora and Flora (1993), Putnam (1993, 1995, 2000), and Turner (1999), Shaffer, Deller, and Marcouiller (2004:203-4) offer the following definition of social capital:

> Social capital refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit. Networks of civic engagement foster norms of general reciprocity and encourage the emergence of social trust. Social capital consists of the social networks in a community, the level of trust between community members, and local norms. These networks, norms and trusts help local people work together for their mutual benefit.

Such a broad definition of social capital is attractive from a conceptual perspective, but it creates serious problems for research interested in developing specific empirical metrics.

[3] See Lott and Whitley (2003) for a detailed discussion of problems with the county level FBI UCR data which is used in this study as well as most ecological studies of U.S. crime patterns

[4] An approach advanced by Lee and his colleagues (Lee and Ousey 2001; Lee, Maume and Ousey 2003; Lee and Bartlowski 2004; Lee and Thomas 2010) suggests that to avoid problems of collinearity one can control for a range of variables in the form of indices. For example, by combining variables such as poverty, income and unemployment (among others) into a single index researchers can the focus on variables of interest such as different metrics of social capital.

[5] One could make the case that if the early empirical results were consistent there would be little academic interest in continuing to explore this line of research.

[6] Missing data within the FBI UCR removes a handful of counties from the analysis.

[7] The condition indices approach is not a statistical test hence there are no probabilistically determined critical values Monte Carlo simulation suggest that values below 30 indicate no collinearity problems, but values above 100 suggest that collinearity is a problem (Judge, et al. 1982). At values between 30 and 100 the test is indeterminate.

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Appendix

Appendix A: Descriptive Statistics

	Non Metro		Metro		All Counties	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Median Household Income 1989	21,351.61	4,323.55	28,370.34	7,023.40	23,751.12	6,343.59
Change in Median Household Income 1989-1999	11,562.68	2,740.76	14,129.06	4,236.73	12,440.05	3,543.71
Unemployment Rate 1989	6.38	3.18	5.64	2.25	6.13	2.91
Change In Unemployment Rate 1989-1990	-1.29	2.25	-1.68	1.44	-1.42	2.02
Population 1990	22,522.85	54,794.79	180,940.99	429,410.76	76,681.56	265,750.28
Change In Population 1990-2000	4,274.62	11,122.17	31,482.27	66,802.08	13,576.16	42,102.88
Gini Coefficient 1989	0.25	0.04	0.32	0.06	0.27	0.06
Change in Gini Coefficient 1989-1999	0.10	0.02	0.10	0.02	0.10	0.02
Ratio of Low-to-High Income 1989	101.80	120.48	51.52	79.99	84.77	111.04
Change in Ratio of Low-to-High Income 1989-1999	-83.84	118.94	-43.49	77.10	-70.18	108.31
Poverty Rate 1989	18.55	8.07	13.35	6.34	16.77	7.92
Change in Poverty Rate 1989-1999	-3.91	3.69	-2.49	3.08	-3.43	3.55
Child Poverty Rate 1989	23.57	10.64	17.31	8.59	21.43	10.41
Change in Child Poverty Rate 1989-1999	-3.06	5.32	-2.22	3.96	-2.77	4.92
Change in Total Crime 1990-2000	-578.24	1,454.59	-1,098.35	1,728.42	-760.20	1,575.24
Change in Violent Crime 1990-2000	-577.58	1,468.80	-1,070.60	2,035.30	-750.06	1,704.68
Change in Property Crime 1990-2000	-558.62	1,331.83	-995.76	1,538.28	-711.61	1,422.63

Source: Cenus, 1990, 2000 and the FBI Uniform Crime Reports

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