

The Pursuit



“You are to appoint judges and officers for all your gates [in the cities] your G-d is giving you, tribe by tribe; and they are to judge the people with righteous judgment. You are not to distort justice or show favoritism, and you are not to accept a bribe, for a gift blinds the eyes of the wise and twists the words of even the upright. Justice, only justice, you must pursue; so that you will live and inherit the land your G-d is giving you.”

Deuteronomy 16:18 – 16:20



About *The Pursuit* Journal

The Pursuit, a publication of the Criminal Justice Association of Georgia (CJAG) is a peer-reviewed journal that focuses on the broad field criminal justice. *The Pursuit* publishes scholarly articles relevant to crime, law enforcement, law, corrections, juvenile justice, comparative criminal justice systems and cross-cultural research. Articles in *The Pursuit* include theoretical and empirically-based analyses of practice and policy, utilizing a broad range of methodologies. Topics cross the spectrum of policing, criminal law and procedure, sentencing and corrections, ethics, juvenile justice and more, both in the United States and abroad.

Authors interested in submitting manuscripts for consideration should use the link on the CJAG website (<http://cjag.us>) or email the Editor of *The Pursuit* at cjagjournal@gmail.com

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About the Criminal Justice Association of Georgia

The Criminal Justice Association of Georgia is a not-for-profit organization of criminal justice faculty, students and professionals. It exists to promote professionalism and academic advancement in all areas of inquiry related to the Criminal Justice field.

The Association holds its annual meeting in October. Those interested in presenting at the conference should contact Professor Lorna Alvarez-Rivera (llalvarezrivera@valdosta.edu).

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Testing the Generalizability of Informal Social Control Theory:

Change and Stability of Illicit Substance Use Across the Life Course Among Black and White Subgroups

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Abstract

Sampson and Laub's age-graded informal social control theory has generated considerable attention vying to become a leading explanation of criminal involvement across the life-course. It has spawned a number of criticisms and an equivocal body of research. Many of these criticisms have centered on their reliance upon a dataset consisting of only White males born in the late 1920s and early 1930s. Using logistic regression, the current project explores whether adult social bonds such as marital bonds, employment bonds, and military service, factors highlighted by Sampson and Laub, are related to desistance from substance use among subjects within the National Longitudinal Survey of Youth 1979 cohort – a more diverse sample in terms of race and gender. This project specifically extends this body of literature by examining racial variation in the relationship between social bonds and substance use. While marriage was, overall, important in predicting desistance the relationship varied by race and stage in life. The findings are discussed in terms of the further specification of theoretical models recognizing distinct pathways to change and continuity of substance use among various racial categories and historical settings.

Key words: life course, substance use, social bonds, race

In Sampson and Laub's seminal piece (1993) entitled *Crime in the Making: Pathways and Turning Points through Life*, the authors explained stability and change of criminal behavior across the life course. One of Sampson and Laub's key findings was that the quality of employment and marital bonds predicts criminal behavior even after controlling for prior criminal behavior. Although Sampson and Laub's work has been highly praised, others have questioned the relevance of their findings for explaining criminal behavior among a more contemporary and diverse population (Kazemian, 2007; Tracy and Kempf-Leonard, 1996; Nielson, 1999; Uggen and Kruttschnitt, 1998; Wright and Cullen, 2004). These criticisms regarding the relevance of their findings center on Sampson and Laub's reliance on a sample consisting exclusively of White males born between 1924 and 1935, a historical period marked by the Great Depression. The current research will address these criticisms by applying the theoretical insights of Sampson and Laub to a more contemporary and diverse sample: The National Longitudinal Survey of Youth - 1979 cohort.

Despite Sampson and Laub's predictions that strong marital bonds decrease criminal behavior, research regarding the relationship between marriage and criminal behavior is equivocal (King, Massoglia, & MacMillan, 2007). Some studies suggest that marriage is a salient feature leading to the desistance from crime (Farrington & West, 1995; Laub & Sampson, 2003; Sampson & Laub, 1993; Schroeder, Giordano, & Cernkovich, 2007) while other research has found no relationship between marriage and desistance (Giordano, Cernkovich, & Rudolph, 2002; Knight, Osborne, & West, 1977). Other research finds that marriage is more strongly associated with desistance for males than for females (King, Massoglia, & MacMillan; 2007). Similarly, Neilson (1999) found that marriage reduced drunkenness for Whites, but had no effect on drunkenness for African Americans. An explanation for these various and conflicting

findings is a central goal of the current study. The current study will specifically focus on how marital bonds may affect substance use differently across Black and White racial subgroups.

Another key finding within Sampson and Laub's study was the negative relationship between employment bonds and criminal behavior (1993). The general finding that employment inhibits criminal behavior is supported in criminological literature (Farrington, Gallagher, Morley, Ledger, & West, 1986; Uggen, 2000; Wright & Cullen, 2004). Sampson and Laub argue that "employment coupled with job stability, job commitment, and mutual ties to work (that is, employee-employer interdependence) should increase social control and, all else being equal, lead to a reduction in criminal and deviant behavior" (1993, p.140). Sampson and Laub (1993) argue that the primary reason this occurs is because of social capital which emerges from these institutional bonds. Such social capital creates mutual obligations, expectations, and interdependencies that produce conventional behavior. According to Sampson and Laub, the concept of social capital as defined by James Coleman (1990) "can be linked with social control theory in a straightforward manner – lack of social capital is one of the primary features of weak social bonds" (1993; p. 140).

Sampson and Laub (1993) provided empirical support for their age-graded informal social control from their reanalysis of Sheldon and Eleanor Glueck's data which was originally collected beginning in 1939. The Glueck data set consisted of information gathered on 500 official delinquents selected from correction schools in Massachusetts and 500 non-delinquent White males selected from Boston public schools. Methodological weaknesses include that the sample consists of only White males from Boston, Massachusetts. The sample was not randomly selected in any way to represent any larger population. The sample consists of individuals born

during a unique period in American history between 1922 and 1929 immediately prior to or during the Great Depression.

The strength of Sampson and Laub's (1993) work is their application of a life-course perspective coupled with advanced statistical methods and software that had previously been unavailable to the Gluecks; however, several researchers have questioned the relevance of a sample of all White males born prior to the depression in Boston to today's contemporary crime problem and a more diverse sample of offenders (Giordano et al., 2002; Nielson, 1999; Warr, 1998; Wright and Cullen; 2004).

The present study seeks to examine factors that predict desistance from illicit substance use, and analyzes the importance of each of these factors by race. Subjects in the data used were initially interviewed in 1979 (ages 14-22), and those who indicated being illicit substance users in 1984 (ages 19-27) were included in this study. Predictions of desistance are made at two stages of the life course, middle adulthood when subjects were between the ages of 27 and 35 and late middle adulthood when subjects were between the ages of 33 and 41.

Literature Review

Sampson and Laub (1993) found that adult social bonds such as employment bonds and marital bonds can alter future criminal behavior despite a background of prior juvenile delinquency. Thus, strong social ties to the labor force and one's spouse predicted future criminal behavior regardless of the individual's criminal propensity.

Numerous studies have investigated marriage as an important turning point that is implicated in the frequency and likelihood of substance use and crime (Horney, Osgood, & Marshall, 1995; Giordano et al., 2002; King et al., 2007; Thompson & Petrovic, 2009; Warr,

1998). More broadly speaking, marriage has been linked to numerous prosocial outcomes including psychological well-being, financial well-being, reduced stress (Waite, 1995), reductions in risky behaviors (Wickama et al., 1997), and improved mental health (DeKlyen et al., 2006). There is also evidence in extant research focusing upon mental health that claims marital status influences a number of psychiatric disorders, including substance use (DeKlyen, Brooks-Gunn, McLanahan, & Knab, 2006; Williams, Takeuchi, & Adair, 1992; Chilcoat & Breslau, 1996; Burton, Johnson, & Ritter, 1996). In short, marriage does indeed matter for numerous pro-social outcomes (Waite, 1995).

The link between employment and crime has been central to criminological theories because bonds to employment produce social capital and interdependencies between employer and employee (Sampson & Laub, 1993). Work exposes individuals to frequent contact with conventional others (Warr, 1998), and employment provides legitimate means for achieving cultural goals (Merton, 1938). Research findings generally support the notion that employment reduces criminal behavior (Horney, Osgood & Marshall, 1995; Uggen, 2000; Warr, 1998; Wright & Cullen, 2004). However, there are some notable exceptions to the finding that employment reduces criminal behavior such as intense work during adolescence (Apel, Bushway, Brame, Haviland, Nagin, & Paternoster, 2007; Cullen, Williams, & Wright, 1997; Johnson, 2004).

Race

The family structure of African Americans in the United States has been the subject of intense study over the last fifty years (Moynihan, 1965; Gordon, 1995; McLoyd, Cauce, Takeuchi, & Wilson, 2000; Dickson, 1993). Sociological descriptions of the marital and family

life of African Americans differ substantially from descriptions of their White counterparts. Research focusing upon marriage among African Americans reveals that African Americans are less likely to marry than their White counterparts. Furthermore, when African Americans do marry it tends to be later in the life course (Cherlin, 1992; Koball, 1998). African American marriages are shorter in duration and are more likely to end in divorce than those of Whites (Dixon, 2009). The structural explanations for these differences focus upon the marriagability of African Americans, particularly how their marginalization in the labor force affects their chances of being married (Cherlin, 1998; Wilson, 1987).

Desistance

Although the study of desistance has become increasingly popular particularly since Sampson and Laub's (1993) work, *Crime in the Making*, was published, many criminologists still consider our state of knowledge regarding this phenomena as relatively limited (Bushway, Thornberry & Krohn, 2003; Farrel & Bowling, 1999; Kazemian, 2007; Laub & Sampson, 2001; Uggen & Pilavian, 1998). Given the potential value of understanding desistance for the development of effective criminal justice policies and practices, this limited understanding of desistance is problematic (Farrall & Bowling, 1999).

The current study defines desistance as the self-reporting of complete cessation of illicit substance use for one year among individuals who had previously self-reported the use of illicit substances at an earlier period. The current study's conceptualization of desistance of substance use disregards official sanctions and definitions of criminal behavior by focusing upon substance use among the general population rather than an offender population. This means that many individuals considered illicit substance users in the current study probably do not have

significant substance abuse problems nor have they necessarily been subject to the attention of the criminal justice system (although certainly a segment of them do). Given the knowledge gained from the previous literature, it is appropriate to investigate the factors associated with the desistance of illicit substance use among samples that are non-offender populations which do not necessarily have extensive drug histories. Furthermore, it is plausible that the knowledge regarding the desistance of these less serious non-offender populations will provide a useful comparison as opposed to offender populations with a higher threshold of deviance.

Hypotheses

The following hypotheses are to be tested with measures of illicit substance use taken during the 1992 (ages 27 to 35) and 1998 (ages 33 to 41) waves.

1. Among prior illicit substance users, social bonds will increase the likelihood of desistance of illicit substance use.
2. The relationship between social bonds and desistance from illicit substance use does not vary by race.

Methods

Data

The National Longitudinal survey of Youth 1979 (NLSY 79) is one of the most ambitious national longitudinal surveys that has been conducted within the United States. The survey began collecting data on 12,686 subjects in 1979 when subjects' ages ranged from 14 to 22 years. The NLSY 79 (previously referred to as the Youth Cohort) was conducted starting in 1979 by the Center for the Human Resource Research of Ohio State University (Mensch & Kandel, 1988). The survey was conducted primarily through face to face interviews. The

interviews were conducted on an annual basis from 1979 to 1994; but, due to the increasing cost of data collection, the survey began collecting data biennially after 1994.

The retention rate for the NLSY over the first 16 waves of data collection was nearly 90 percent, primarily due to the innovative practice of attempting to interview subjects who might have been missed in earlier years. While many longitudinal surveys have traditionally dropped individuals from the study if they were unable to interview them in previous years, the NLSY 79 attempted to locate and interview all individuals even if they were unable to interview them in previous waves (Center for Human Resource Research, 2006).

Measures of Illicit Substance Use

The measures of illicit substance use within the current study include information from three waves of data collection: 1984, 1992, and 1998. A binary composite measure of illicit substance use within the last year was created from two separate survey questions. The first question asks the respondent "Have you ever used any of these drugs on your own, without a doctor telling you to take them, to get high or enjoy the feeling?" The respondent was then shown a card for each of the following drugs and their related "street names": marijuana, cocaine, amphetamines or stimulants, tranquilizers, barbiturates or sedatives, psychedelics, and heroin. The second question asked respondents, "When was the most recent time you used _____ (on your own, without a doctor telling you to take it)?" Response categories for this question included "1 - within the past 30 days", "2 - more than 30 days ago but within the past 6 months", "3 - 6 months to a year ago", and "4 - more than a year ago." Information from these two questions was combined to create a composite measure indicating whether the respondent had used any illicit substances within the last year. If respondents reported using any

illicit substances within the last year, they were coded as a "1." If respondents indicated never having used illicit substances or their use was over a year ago, then they were coded as a "0".

Dependent Variable- Desistance

For models predicting desistance in middle adulthood, only those who reported recent illicit substance use in 1984 were included. The ages of subjects during the 1984 wave ranged from 19 to 27 years. Those respondents who reported illicit substance use in 1984 were coded as having desisted from illicit substance use, "1," if they did not report recent illicit substance use in the 1992 wave. They were coded as "0" for not desisting if they did report recent illicit substance use in the 1992 wave.

For models predicting desistance in late middle adulthood, those who reported recent illicit substance use in 1984 or 1992 were included. Those respondents were coded as having desisted from illicit substance use, "1," if they did not report recent illicit substance use in the 1998 wave. They were coded as "0" for not desisting if they did report recent illicit substance use in the 1998 wave.

Measures of Social Bonds

Measures of social bonds include those related to marital bonds and employment bonds. The measurement of employment bonds in the current study is based on a composite measure of job stability. The composite measure of job stability was created from four separate items measuring employment status, number of weeks with current employer, number of weeks employed in last year, and percentage of time employed from 1979 to 1984, 1985 to 1992, and 1993 to 1998. Employment status is a simple dichotomous variable indicating whether individuals were employed at the time of the interview. Number of weeks with current employer

is a variable created by NLSY 79 staff that indicates the number of weeks the respondent has been employed with his or her current employer at time of interview. Number of weeks employed in the last calendar year ranges from 0 to 52, indicating the number of weeks an individual was employed over the last calendar year. A more long-term measure of employment stability was created indicating the percentage of time employed between interview dates from 1979 to 1984, 1985 to 1992, and 1993 to 1998. These long term measures of employment stability were calculated by summing both the weeks employed since last interview and the number of weeks since last interview for the given years. The sum of the number of weeks worked since last interview was then divided by the sum of the weeks since last interview. This number was then transformed into a percentage by multiplying by 100. Responses from these four items (employment status, weeks with current employer, weeks employed in last year, and the long-term measurement of job stability) were then standardized by transforming them into z-scores, and a mean of all four z-scores was calculated. The Cronbach's alpha reliability scores for these composite measures for job stability in the 1984, 1992, and 1998 waves of data collection are .738, .600, and .572 respectively. Cronbach's alpha values of .5 or higher are considered an indication of acceptable inter-item consistency (George & Mallery, 2003).

Marital status is a simple dichotomous variable indicating married or not married at the time of the interview. Military status was coded by identifying those respondents who were actively serving in the military at the time of each interview. For the models predicting illicit substance use in middle adulthood, respondents were coded "1" if they were actively serving in the military in 1984 or 1992, and "0" if they did not have military service in either of those time periods. For the models predicting illicit substance use in late middle adulthood, respondents

were coded “1” if they were actively serving in the military in 1984, 1992, or 1998, and coded “0” if they did not have military service in any of those time periods.

Student status indicates whether the respondent was enrolled in school at the time of the interview (“1” for yes, and “0” for no), while education indicates the number of years of education the respondent has completed. Children in household is a measure of the number of children living in the respondent’s household at the time of the interview, and recent child born indicates whether the respondent had a child born within the twelve months prior to the interview (“1” for yes, and “0” for no).

Demographic Variables

Research in criminology has uncovered a large number of covariates related to criminal behavior. Measurements of these covariates need to be controlled for since their influence upon illicit substance use may confound any relationship with social bonds. In the current study, these variables include age, race, gender, and personal income.

The NLSY 79 cohort consists of individuals ranging from ages 14 to 22 in 1979. Because of this considerable variation in age of respondents within each wave of data collection, age will be controlled using the variable "Age 92," which measures the respondent's age in years at the time of interview for the 1992 wave of data collection.

Dummy variables were created for the measurement of race. The variable “Black” was coded “1” indicating “Black” and all other values were coded “0”. The variable “Hispanic” was coded “1” indicating “Hispanic” and all other values were coded “0”. The reference category is “White”.

A measurement of income was calculated by summing the values for five separate items:

- 1) "During the last year, how much did you receive from wages, salary, commissions, or tips from all jobs?"
- 2) "And how much total income did you receive during the last year from the military before taxes and deductions? Please include money received from special pays, allowances, and bonuses."
- 3) "How much did you receive after expenses (from your farm/business)?"
- 4) "How much did you receive after expenses (from your own nonfarm business, partnership, or professional practice)?"
- 5) "How much did you receive in the past year from child support or alimony?"

The values for each of the above items represented actual dollars and were summed together and divided by 1,000 to create the variables "Income84," "Income92," and "Income98" for each wave of data collection. These variables show the respondent's income in thousands of dollars.

Analytical Strategy

The current study uses logistic regression to estimate the likelihood of recent illicit substance use. Logistic regression is an appropriate statistical technique when the dependent variable is dichotomous (Menard, 1995). Since the dependent variable in the current study is desisting or not desisting from drug use, logistic regression was employed.

The analytical strategy of the current study consists of two sets of analyses focusing upon predictors of desistance use during middle adulthood and late middle adulthood. The middle adulthood variables were measured during the 1992 wave of data collection, when subjects' ages ranged from 27 to 35 years. The late middle adulthood variables were measured during the 1998 wave of data collection, when the subjects' ages ranged from 33 to 41 years.

The first and second set of models examine the likelihood desistance use among individuals with a prior history of illicit substance use as measured in previous wave(s). To examine desistance of illicit substance during middle adulthood, models presented include only those who reported illicit substance use in the 1984 wave of data collection. Then race specific models including only Whites and only Blacks will be presented for prior illicit substance users as measured in the 1984 wave. In order to examine desistance from substance use during late middle adulthood, the second set of models predicts desistance from substance use during the 1998 wave of data collection among individuals with a prior history of illicit substance use as indicated by the 1984 and/or 1992 waves. These late middle adulthood models were conducted first with the total sample. Following the models predicting desistance from substance use among the entire sample, models were run predicting desistance from substance use for Blacks only and Whites only, in order to test the generalizability of informal social control theory across these racial categories.

Results

The first set of multivariate models presented predicts the desistance or continuity of illicit substance use for individuals between 27 and 35 years of age. All of the individuals in these middle adulthood desistance models reported using illicit substances in the previous 1984 wave of data collection when subjects were between 19 and 27 years of age. The retention rate for this subgroup of individuals who reported having used illicit substances during the 1984 wave of data collection is 92.9 percent.

Descriptive statistics show that, in the middle adulthood models, 31.5% of the respondents reported recent illicit substance use (see table 1), which means 68.5% of the sample

is coded as having desisted from illicit substance use. Table one also provides descriptive statistics for the independent variables.

Table 1: Descriptive Statistics for Middle Adulthood Desistance Models (Ages 27 to 35) includes only individuals who reported using illicit substances in the 1984 wave

	Minimum	Maximum	Mean	Std.
Male	0	1	.60	.491
Black	.00	1.00	.2374	.42551
Hispanic	.00	1.00	.1404	.34747
Age	27	35	30.79	2.206
Income 84	.00	88.07	7.57	7.96
Income 92	.00	354.43	19.61	20.69
Job stability 84	-1.56	1.98	-.0627	.79146
Job stability 92	-3.39	1.44	-.0714	.71430
Military 84 or 92	.00	1.00	.0312	.17389
Student status 84	0	1	.16	.370
Student status 92	0	1	.06	.246
Education 84	4	20	12.26	1.944
Education 92	4	20	12.87	2.309
Married 84	.00	1.00	.2378	.42580
Married 92	.00	1.00	.4599	.49847
Children in house 84	0	5	.37	.747
Children in house 92	0	7	.98	1.166
Recent child born 84	.00	1.00	.0673	.25050
Recent child born 92	0	1	.16	.370
Recent drug use 92	.00	1.00	.3148	.46453

The first middle adulthood model presented (see table 2) predicts the likelihood of desistance from illicit substance using gender, race, age, income (1984 and 1992), job stability (1984 and 1992), military service at either wave, current enrollment in school (1984 and 1992), educational attainment (1984 and 1992), marital status (1984 and 1992), number of children residing in the household (1984 and 1994), and the birth of a child within the last year (1984 and 1992) as independent variables. Measurement at two separate waves allows for the estimation of the most proximate measure of the variable's influence upon desistance from illicit substance use while controlling for antecedent levels of the same variable. The Nagelkerke pseudo R-squared measure for this middle adulthood full model predicting desistance is .063.

Table 2: Logistic Regression Model Predicting Likelihood of Desistance from Illicit Substance Use during Middle Adulthood (Ages 27 to 35)
(N = 2,699)

	B	S.E.	OR
Male	-.398**	.096	.672
Black	.447**	.111	1.536
Hispanic	.434**	.124	1.543
Age 92	-.030	.022	1.031
Income 84	-.006	.007	.994
Income 92	.003	.003	1.003
Job stability 84	.039	.073	1.039
Job stability 92	.198**	.074	1.219
Military 84 or 92	1.362**	.364	3.906
Student status 84	.116	.145	1.124
Student status 92	.090	.183	1.095
Education 84	-.109*	.055	.897
Education 92	.111*	.048	1.117
Married 84	.112	.126	1.118
Married 92	.444**	.105	1.559
Children in house 84	.010	.082	1.010
Children in house 92	.015	.049	1.015
Recent child born 84	.159	.189	1.173
Recent child born 92	.268*	.132	1.308
Nagelkerke R ² = .063			

* p < .05

** p < .01

Demographic variables are important in this model in predicting desistance from illicit substance use. This model shows males are less likely to desist than females, and that Blacks and Hispanics are more likely to desist than Whites. Several social bond variables are also statistically significantly associated with predicting desistance. The proximate measure of job stability, but not the antecedent measure, is related to the desistance from illicit substance use in this model. In other words, those prior substance users with higher job stability in 1992 are more likely to desist from using illicit substances than those substance users with lower job stability in 1992. Those who are married in 1992 are more likely to desist from using illicit substances than those who are not married in 1992 after controlling for all other variables in this model; however, marriage in 1984 is not significantly associated with the likelihood of desistance. The odds of someone who is married in 1992 desisting from illicit substance use are 56% greater than the odds of desisting for someone who is not married in 1992, after holding constant all other variables in the model.

Military service in either 1984 or 1992 is statistically significantly associated with the likelihood of desistance, with the odds of desistance for those with active military service desisting 3.9 times the odds of desistance for those without active military service. Additionally, having a recent child born in 1992 was significantly associated with desistance, although a recent child born in 1984 was not significantly associated. Those with a recent child born in 1992 were more likely to desist than those who did not have a recent child born in 1992. Age, income, student status, the number of children in the household are not statistically significantly related to desistance in this model. Overall, the findings from this first model predicting desistance from illicit substance use during middle adulthood suggest that some measures of adult social bonds are related to desistance from illicit substance use.

Race-Specific Middle Adulthood Models (Ages 27 to 35)

The next two models to be presented (see table 3) are the race-specific models predicting desistance during middle adulthood (ages 27 to 35). These two models contain the same independent variables as the full desistance model presented in table 2, with the exception of the race dummy variables Black and Hispanic. The White-only middle adulthood desistance model has a Nagelkerke R^2 of .071 and the Black-only middle adulthood desistance model has a Nagelkerke R^2 of .054.

Table 3: Logistic Regression Model Predicting Likelihood of Desistance from Illicit Substance Use During Middle Adulthood (Ages 27 to 35) by Race

	Model 1 White Respondents			Model 2 Black Respondents		
	B	SE	OR	B	SE	OR
Male	-.369*	.125	.691	-.155	.203	.855
Age 92	.027	.031	1.027	.048	.042	1.049
Income 84	-.008	.010	.992	.011	.019	1.011
Income 92	.002	.003	1.002	.009	.008	1.009
Job stability 84	.083	.102	1.087	.034	.139	1.035
Job stability 92	.211	.111	1.235	.160	.125	1.173
Military 84 or 92	1.270	.502	3.561	1.153*	.557	3.169
Student status 84	.152	.191	1.164	.160	.287	1.174
Student status 92	-.086	.232	.917	.674	.420	1.962
Education 84	-.064	.069	.938	-.098	.123	.907
Education 92	.114	.061	1.121	.031	.112	1.032
Married 84	.100	.165	1.106	-.051	.288	.950
Married 92	.470*	.134	1.600	.287	.229	1.333
Children in house 84	.051	.131	1.053	.054	.131	1.056
Children in house 92	.007	.076	1.007	.000	.083	1.000
Recent child born 84	.136	.298	1.146	.150	.296	1.162
Recent child born 92	.368*	.180	1.445	-.068	.255	.968
N		1,496			747	
Nagelkerke R ²		.071			.054	

* p < .05

** p < .01

For Whites but not for Blacks the proximate measure of marital status was significantly related to a greater likelihood of desistance from illicit substance use within the last year. After controlling for all other variables in the model, the odds of Whites who were married in 1992

desisting are 1.6 times the odds of Whites who are not married desisting. Marital status predicts desistance from illicit substance use among Whites as predicted by age-graded informal social control, but no similar finding was found for Blacks. A recent child born in 1992 was also statistically significantly related to desistance from illicit substance use for Whites, but not for Blacks, with Whites with a recent child born in 1992 being more likely to desist than Whites who did not have recent child born in that year. This suggests that age-graded informal social control theory's predictions regarding some social bond variables and desistance may be limited to only Whites. Military service in either 1984 or 1992 was a statistically significant predictor of desistance for both Whites and Blacks, both with odds ratios greater than 3. Also for Whites, being male was statistically significantly related to a lower likelihood of desistance, but not for Blacks.

Income, student status, education, and number of children in the house were not statistically significant predictors in either model. Although job stability did not reach statistical significance in either the White-only or Black-only models, the level of statistical significance for the proximate measure of job stability among Whites was close at $p=.056$. Furthermore, the direction of this relationship, although not reaching the threshold of statistical significance, was in the predicted direction.

Late Middle Adulthood Models (Ages 33 to 41)

The late middle adulthood models are based on the respondents who reported recent drug use in either 1984 or 1992, and who were then coded as either desisting or not desisting in 1998. The percentage of respondents in the 1998 wave who reported recent illicit substance use was

23.4% (see table 4), indicating that 76.6% had desisted in late middle adulthood. Table 4 also presents descriptive statistics for the independent variables in the late middle adulthood models.

Table 4: Descriptive Statistics for Late Middle Adulthood Desistance Models (Ages 33 to 41) includes only individuals who reported using illicit substances in the 1984 or 1992 wave

	Minimum	Maximum	Mean	Std.
Male	0	1	.60	.491
Black	.00	1.00	.2424	.42856
Hispanic	.00	1.00	.1432	.35032
Age 92	27	35	30.77	2.208
Income 92	.00	345.43	19.23	20.30
Income 98	.00	301.10	26.54	29.43
Job stability 84 92	-3.83	1.74	-.0811	.68187
Job stability 98	-3.76	1.23	-.0926	.73663
Military 84 92 98	.00	1.00	.0367	.18815
Student status 92	0	1	.06	.245
Student status 98	0	1	.04	.196
Education 92	1	20	12.82	2.301
Education 98	1	20	13.03	2.314
Married 92	.00	1.00	.4446	.49700
Married 98	.00	1.00	.5151	.49985
Children in house 92	0	7	.97	1.164
Children in house 98	0	7	1.23	1.247
Recent child born 92	0	1	.16	.367
Recent child born 98	0	1	.10	.306
Recent drug use 98	.00	1.00	.2337	.42325

Full Late Middle Adulthood Model (Ages 33 to 41)

The first model predicting desistance from illicit substance use during late middle adulthood includes all races (see table 5). Because this model predicts desistance of illicit substance use, it includes only those individuals who reported using illicit substances in 1984 and/or 1992 and who were re-interviewed in 1998. The pseudo R^2 measure for this late middle adulthood full model predicting desistance is a Nagelkerke R^2 of .071.

Table 5: Logistic Regression Model Predicting Likelihood of Desistance of Illicit Substance Use during Late Middle Adulthood (Ages 33 to 41)
(N = 2,939)

	B	S.E.	OR
Male	-.596**	.103	.551
Black	.373**	.114	1.452
Hispanic	.430**	.131	1.538
Age 92	.036	.022	1.037
Income 92	.001	.003	1.001
Income 98	.002	.002	1.002
Job stability 84 92	.123	.089	1.130
Job stability 98	.124	.073	1.132
Military 84 92 98	.410	.262	1.506
Student status 92	.026	.203	1.027
Student status 98	.242	.252	1.273
Education 92	.035	.076	1.036
Education 98	-.018	.076	.982
Married 92	-.144	.120	.866
Married 98	.725**	.119	2.064
Children in house 92	.037	.057	1.038
Children in house 98	-.019	.053	.981
Recent child born 92	.242	.136	1.274
Recent child born 98	.217	.168	1.242

* p < .05

** p < .01

The only key adult social bond measure in this full late middle adulthood desistance model that reached statistical significance was the proximate measure of marital status. After controlling for all other variables in the model, the odds of a married person desisting were approximately 2 times the odds of desisting for a non-married person. This finding is consistent with age-graded social control theory which predicts that marriage fosters conformity regardless of prior criminality.

The other key adult social bond measure, job stability, was not a significant predictor of desistance from illicit substance use. Military service also did not reach statistical significance in the late middle adulthood model, although it had in the previous middle adulthood model. Similarly, having a recent child born was not statistically significantly associated with desistance in this model, although it had been in the middle adulthood model. Once again, age, income, student status, years of education, and number of children in the household were not statistically significant.

Race-Specific Late Middle Adulthood Models (Ages 33 to 41)

The next two models (see table 6) are the race-specific models predicting desistance during late middle adulthood. The White-only late middle adulthood desistance model has a Nagelkerke R^2 of .083, and the Black-only late middle adulthood desistance model has a Nagelkerke R^2 of .107.

Job stability is a significant predictor of desistance for Whites but this relationship was not found among Blacks. This suggests that Sampson and Laub's predictions regarding job stability increasing the odds of desistance are limited to Whites during late middle adulthood in this sample.

As found in previous models, marital status is a significant predictor of desistance from illicit substance use among both Whites and Blacks. These findings are consistent with Sampson and Laub’s age-graded informal social control theory. Furthermore, they suggest that marital bonds increase the likelihood of desistance during late middle adulthood for both Whites and Blacks. Being male for both Whites and Blacks is statistically significant, with males being less likely to desist than females. While the effect size is small, income in 1998 is statistically significantly associated with being more likely to desist from illicit substance use for Blacks only. For Whites income is not significant in any models. Job stability, student status, education, number of children in the household, and having a recent child born are not statistically significant predictors of desistance for Whites or Blacks.

Table 6: Logistic Regression Model Predicting Likelihood of Desistance from Illicit Substance Use During Late Middle Adulthood (Ages 33 to 41) by Race

	Model 1 White Respondents			Model 2 Black Respondents		
	B	SE	OR	B	SE	OR
Male	-.662**	0.136	0.516	-.486*	0.21	0.615
Age 92	0.037	0.03	1.038	0.063	0.041	1.065
Income 92	0.005	0.005	1.005	0.005	0.008	1.005
Income 98	.000	0.003	1.000	.022**	0.007	1.022
Job stability 84 92	0.057	0.127	1.059	-0.023	0.166	0.977
Job stability 98	.246*	0.119	1.279	-0.085	0.123	0.918
Military 84 92 98	0.53	0.417	1.699	-0.141	0.367	0.868
Student status 92	-0.141	0.271	0.868	0.29	0.424	1.336
Student status 98	0.022	0.322	1.022	0.739	0.521	2.095
Education 92	-0.061	0.118	0.941	0.07	0.125	1.072

Table 6: Logistic Regression Model Predicting Likelihood of Desistance from Illicit Substance Use During Late Middle Adulthood (Ages 33 to 41) by Race

Education 98	0.105	0.116	1.111	-0.158	0.127	0.854
Married 92	-0.039	0.155	0.961	-0.207	0.258	0.813
Married 98	.568**	0.151	1.764	1.087**	0.265	2.966
Children in house 92	0.025	0.089	1.026	0.139	0.101	1.149
Children in house 98	0.011	0.078	.1011	-0.086	0.096	0.917
Recent child born 92	0.319	0.187	1.376	0.394	0.274	1.483
Recent child born 98	0.441	0.236	1.554	-0.152	0.315	0.859
N		1,597			828	
Nagelkerke R ²		.083			.107	

* p < .05

** p < .01

Discussion and Conclusions

The findings from the current research provide qualified support for Sampson and Laub’s assertion that adult social bonds predict criminal behavior and that adult social bonds predict desistance from criminal behavior among individuals with a prior history of engaging in criminal behavior. Marriage and job stability are associated with an increased likelihood of desistance in some models. However, the results for each of these social bonds were mixed across racial subgroups.

In the full models, the most robust predictor of desistance from illicit substance use was the presence of marital bonds. Marital bonds emerged as a significant predictor of desistance of illicit substance use in middle adulthood and late middle adulthood. The influence of marital bonds upon desistance is not limited to any period within the life-course that was examined.

This finding largely supports theories such as Sampson and Laub's informal social control theory (1993) that stress the importance of marriage for inhibiting criminal behavior. This is consistent with Sampson and Laub's finding that marriage acts as a turning point altering the likelihood of future criminal offending regardless of past involvement.

Job stability is significant predictor of desistance from illicit substance use during middle adulthood, but was not a significant predictor of desistance from illicit substance use late middle adulthood. This finding regarding job stability is generally consistent with extant research findings suggesting that job stability inhibits criminal behavior. The findings that job stability was not significantly related to desistance from illicit substance use during late middle adulthood is indicative of a general pattern whereby fewer adult social bonds were significant predictors of desistance of illicit substance use during the late middle adulthood period as compared to the earlier middle adulthood period. This may be evidence that adult social bonds such as job stability operate within a particular window of opportunity during early to middle adulthood and after this window has passed they are no longer salient. Another possibility is that patterns of illicit substance use may become so entrenched that by late middle adulthood, they are impervious to the influence of this social bond.

Although the current research provides support for Sampson and Laub's findings that adult social bonds predict patterns of criminal behavior across the life course, the issue of generalizability across racial categories is less convincing.

Racial Differences

The current study's findings across White and Black subgroups suggest that adult social bonds operate differently depending upon race. For example job stability emerged as a

significant predictor of desistance from illicit substance use for only Whites during late middle adulthood. This suggests that Sampson and Laub's finding that job stability produces desistance from criminal behavior may be limited to only Whites. It should also be pointed out that, job stability was not a significant predictor of illicit substance use in either the White or Black middle adulthood models. It is possible that many of the jobs encountered during middle adulthood and for Blacks during late middle adulthood were of lower quality than those encountered by Whites during late middle adulthood. This may explain these null findings for both Whites and Blacks during middle adulthood. Other researchers have suggested that the type of low wage and low quality jobs that many young adults work may also expose them to negative peer associations (Uggen, 2000; Wright & Cullen, 2004).

Findings regarding the effects of marital status were somewhat mixed among White and Black subgroups. Although marital status did emerge as a significant predictor of desistance of illicit substance for both White and Black subgroups during late middle adulthood, during middle adulthood marital status was a significant predictor of desistance of illicit substance use for the White subgroup but not the Black subgroup. This presents a complicated picture with evidence suggesting that marital status acting as a turning point for Blacks during late middle adulthood but not during middle adulthood. One possible explanation for this finding may be that Blacks typically delay marriage to a later age as compared to Whites (Tucker & Mitchell-Kernan, 1995). Given relatively few Blacks are married during middle adulthood, it would be more difficult to capture any effect. Other researchers such as Neilson (1999) have found that marriage inhibits drunkenness for Whites, but had no effect for African Americans. Future research should investigate the possibility that the timing of marriage and its effects upon desistance may vary depending upon race and age.

Although many of Sampson and Laub's key findings were supported in the full models, the race specific analyses suggest that some social bonds particularly job stability have effects that differ depending upon race. Results regarding marital status were mixed for Blacks as well. These findings suggest that Sampson and Laub's key findings may not be generalizable to Blacks and females.

Conclusion

The current study raises a number of questions regarding the generalizability of Sampson and Laub's findings to groups of individuals who have limited opportunities to establish and maintain quality social bonds across the life course. This evidence suggests that Sampson and Laub's theory of informal social control may be better suited to explaining patterns of crime for White males than for Black males. Since Sampson and Laub's theory was originally developed and tested with a sample that consisted exclusively of White males, this is understandable and to some extent predictable. The current study agrees with several researchers who have questioned the relevance of Sampson and Laub's theory which is based upon an analysis of a sample of all White males born prior to the depression in Boston to today's contemporary crime problem and a more diverse sample of offenders (Giordano et al., 2002; Nielson, 1999; Warr, 1998; Wright & Cullen; 2004). The current findings of this study suggests that questions regarding the relevance of Sampson and Laub's findings as they relate to race are questionable and should be further examined in future studies.

Future research should investigate other racial categories (such as Hispanics, Asian-Americans, and Native Americans), issues regarding the intersectionality of race and gender, and alternate social bonds such as bonds to religious institutions. These suggestions for future

research could potentially clarify the underlying mechanisms and processes that explain racial and gender subgroup differences in the relationship between social bonds and desistance.

Despite the limitations of the current study, the evidence suggests that the generalizability of Sampson and Laub's age-graded informal social control theory to Blacks is questionable. The current findings suggest that adult social bonds may only operate as turning points for groups that enjoy ample opportunities to establish and maintain quality social bonds such as employment and marriage.

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Rightful Policing as the New Frontier for the Community-Oriented Approach: A Case Study

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Abstract

Community-oriented-policing (COP) and other related initiatives focused on promoting procedural justice have gained prominence within law enforcement in recent decades. Though much federal funding for specific COP projects has waned since the 1990s, some law-enforcement agencies have adopted internal initiatives which advocate for a continued focus on the principles promoted by early versions of COP. The purpose of the present case study is to analyze the community-oriented-policing initiatives of a county sheriff's office in Florida. This sheriff's office has adopted a unique philosophy called "rightful policing" which has been in place since 2015 and has guided recent efforts to improve law enforcement relations with the surrounding community. Through field studies and interviews at the Sheriff's Office headquarters and jail, and a ride-along with a county deputy, this study offers an analysis of the rightful policing philosophy as compared to traditional community-oriented-policing. Special attention is paid to the philosophy's implementation in patrol and corrections.

Community-Oriented and Rightful Policing: A Case Study

A marked cultural distrust of law enforcement has prompted the use of community-oriented-policing (COP) initiatives in recent decades. These COP and related initiatives, which are designed to improve the relationship between police officers and the communities they serve, have been the focus of a substantive and growing body of literature. As these programs become increasingly ubiquitous in both urban and rural communities, academic inquiry on the topic has grown with various stakeholders observing the diverse ways these initiatives are implemented. Within the body of literature exist studies that analyze both environmental and organizational variables which impact practice and implementation. Environmental factors are theorized to have an impact on COP initiatives due to differences in community social structure, while organizational culture within policing agencies is suggested to sometimes be at odds with the non-traditional philosophies of community-oriented policing (Crowl, 2017; de Guzman & Kim, 2017; Haar, 2001; Paoline, 2001). Myhill and Bradford (2012), in particular have drawn attention to healthy organizational culture within law enforcement agencies, including the perception of organizational justice, as a necessary prerequisite for effective implementation of COP among individual officers.

While decades have passed since the introduction of community policing's first forms, the relevance of such initiatives remains strong today. Bodies of literature continue to grow as modern events prompt ethical concerns about the function of law enforcement in the 21st century, while many policy makers and key personnel in law enforcement strive to adapt COP initiatives to fit the needs of modern communities. The present study seeks to add to the body of literature by analyzing community-policing philosophies currently being practiced by a sheriff's office in Florida.

Literature Review

Relevant literature reveals that despite its paradigm-shifting nature, COP has had mixed results in achieving its goals (Crowl, 2017; Rukus, Warner, & Zhang, 2018). Though the literature contains varying perspectives on this lack of effectiveness, many scholars emphasize the need to tailor COP initiatives to the specific qualities of the communities where they are introduced. De Guzman and Kim (2017) draw attention to this idea in their discussion of a “contingency perspective on policing” which would take into consideration a community’s hierarchy of needs, including its level of social order, when considering community policing program implementation (p. 355). Additional research has used both disorganization theory and broken windows theory as a framework for considering the diverse characteristics of individual communities, including specific neighborhood problems which could inform the strategic implementation of COP (Chappell & Lanza-Kaduce, 2004; Wilson & Kelling, 1997). Even early COP research identified ambiguity and the need for specific clarification regarding how this philosophy should be applied in diverse contexts (Skolnick & Bayley, 1988).

Other studies have focused attention on the unique impacts of training as predictors of effective COP implementation; many such studies also include the influence of peer-socialization on officer perceptions of community policing. Haar’s (2001) longitudinal study of training recruits used a survey design to assess officer perceptions of COP philosophy before, during, and after completion of training. His findings indicate positive perceptions among the officers during training, but progressively negative perceptions after recruits were assigned and started working in their respective agencies (Haar, 2001, p. 427). These findings, and those of similar studies (Chappell & Lanza-Kaduce, 2010; Myhill & Bradford, 2013) suggest organizational culture and peer socialization as a substantive obstacle for effective

implementation of COP. Goldstein (1986) notes that the “splitting” of COP field services from other police functions—and thereby distinguishing them as different—can also contribute to negative socialization among law enforcement personnel (p. 12).

Because racial tensions are among the many problems COP initiatives seek to assuage, some scholars have suggested the addition of cultural awareness in law enforcement training. One such perspective posits that an African-centered approach to community policing could help to address certain challenges preventing community collaboration with law enforcement (Bent-Goodley & Smith, 2017, p. 93). Issues such as mistrust, racial bias, and negative police perceptions have been historical challenges preventing productive collaboration between law enforcement and African-American communities; it is argued that strategic cultural education (such as body language and verbal cues) would help to dismantle cultural barriers which contribute to these problems (Bent-Goodley & Smith, 2017, p. 93).

This range of varying research and the myriad variables which have been demonstrated to influence COP initiatives indicate a clear need for continued inquiry on the effectiveness of these programs. However, the tumultuous economic, social, and political landscapes of the United States in the past fifteen years have affected federal funding for these initiatives. Shifting popular focus has resulted in significantly less cultural attention to COP and, consequently, from policymakers. The economic crisis of the 2007 recession is one such event which had widespread impact on both federal and local government, affecting the relevance of COP. Phillips and Gayadeen (2015), argue that the recession prompted a national political inclination toward smaller government and consequently dissuaded local police agencies from accepting COP-related grant funding (p. 29). Other studies hypothesize that the increased relevance of terrorism and homeland security in the wake of September 11, 2001 has shifted funding and

scholarly attention away from COP research (Ahlin & Gibbs, 2012, p. 521). Despite a recent decline in publications, COP research remains important today, especially considering numerous recent events which have fueled hostility between law enforcement and many communities.

Rightful Policing

As national attention has shifted its focus from community-oriented policing, and federal funding for such initiatives has decreased (<https://cops.usdoj.gov/>), the burden to maintain a positive community orientation has fallen on key personnel within individual county and city law enforcement agencies. The absence of federal standardization of COP programs has prompted agencies to adopt their own versions of COP. One such example is a philosophy known as “rightful policing” which has been adopted by the county sheriff’s office involved in this study. The term rightful policing, coined by Meares (2013), refers to the procedural justice and fairness of police conduct which impact the way sanctions are perceived. (p. 2). While traditional police evaluation includes the two primary elements of comportment with law and crime reduction, the concept of rightful policing, as described by Meares, represents a third metric which assesses “what people say that they care about when assessing police agent behavior specifically and police agencies in general” (Meares, 2013, p. 1). This also includes a qualitative shift from law enforcement agencies as structures which have little impact on crime rates, to forces actively participating in crime reduction (Meares, 2013, p. 2). With an emphasis on the concept of legitimacy, Meares argues that “rightful policing” can accomplish both lawfulness and crime reduction by helping establish law enforcement as “legitimate authority” even for those who have committed crime. This concept of legitimacy links rightful policing to the philosophy of procedural justice; it is argued that a relational orientation to policing, which emphasizes identity and dignity even while imposing sanctions, achieves positive outcomes of procedural justice and

legitimizes the authority as rightful (Meares, 2013, p. 3). This modern iteration of COP philosophy is used as a framework to aid in the analysis of the present study.

The Present Study

The current research is a case study which seeks to analyze current community-oriented policing initiatives within one Florida county sheriff's office. Specifically, this research focuses on this organization's unique application of the "rightful policing" philosophy, including the conceptions of key personnel regarding goals for implementation and desired outcomes. Through interviews with the county sheriff and other key personnel, as well as field observation through one officer ride-along and a tour of the jail, the researcher collected qualitative data regarding the training, philosophy, and practical implementation of COP initiatives in this agency.

Community Information

The county in which the present study takes place is composed of three cities on Florida's gulf coast and has an estimated population of 412,880 (Florida Department of Law Enforcement, ND). The median age is 55.1 and the median household income is \$61,683, with a poverty rate of 10.5% (United States Census Bureau). The population of the county is 82.9% White Alone while 9.34% are Hispanic or Latino and 4.26% are Black or African American Alone. According to the United States Census Bureau, 10.5% of the county's population live at or below the poverty level (United States Census Bureau). The most recent crime data indicate that in 2018 the county recorded 11,514 arrests with a total of 8,571 index offenses (Florida Department of Law Enforcement, ND). The city in which the sheriff's office headquarters and jail are located is northernmost in the county, second largest by population, but leads the county in crime rates (www.city-data.com, 2020). This area is also a well-regarded retirement destination, as well as a

magnet for tourism. In fiscal year 2019 the county had 2.8 billion visitors with \$1.88 billion in direct expenditure. These high volumes of tourism combined with a variety of arts and entertainment venues form a unique backdrop for local law enforcement operations (www.visitsarasota.com, 2020).

Sheriff's Office Information

The Sheriff's Office involved in this case study was formed in 1921 in order to serve the southern section of a newly divided county. The current Sheriff has been in office since 2009 and is the tenth to serve in this position since the agency's conception. The agency has a jurisdiction of 572 square miles, including 35 miles of shoreline, and employs roughly 1000 sworn officers. Duties of the Sheriff's Office include patrol, investigations, and corrections, as well as a range of other functions such as youth services and animal control (Sarasota County Sheriff's Office, 2020).

The Sheriff's staff includes one Chief deputy who serves as second in command, a law enforcement division commander, a courts and corrections division commander, an administrative division commander, and a community affairs director. These staff serve directly under the Sheriff to assist in the execution of the agency's mission, which is expressed as "providing effective and efficient service in partnership with our community."

The county jail is operated by the Sheriff's Office corrections staff. Its rated capacity is 1,026, with an average population of 950 inmates. Corrections staff is split into operations and services bureaus and requires roughly 140 deputies and 30 higher-ranking officers for daily operation. The 2015 budget for county jail operation was \$25 million (Sarasota County Sheriff's Office, 2020).

Theoretical Framework

The versions of COP analyzed in the law enforcement agency included in this study will be considered using the framework of role theory. The philosophies and implementation of specific initiatives can be elucidated by applying this framework. Role theory states that the actions of an individual are intimately associated with that individual's perceived role (Miller, 2019). In the context of law enforcement, role theory can be applied to interpret the various ways in which officers interact with each other and the surrounding community. According to role theory, police behavior would change based on the officer's perception of their role. Torres et al. (2018) draw from role theory in their study which identifies two distinct roles which police commonly identify with; the law enforcer and the community-oriented police officer. These two roles will be applied to the current research as a way to interpret the role identity outlined by rightful policing in this sheriff's office.

Methodology

Qualitative interviews were conducted with key personnel from the sheriff's office regarding details about rightful policing. During the interviews, which took place at the county headquarters, notes were taken in order to record key points and concepts outlined by interviewees. Interviews included one in-depth focus group with the sheriff, a colonel, a law enforcement division commander, community affairs director, and corrections sergeant. One follow-up interview was conducted with the law enforcement division commander to add clarity and follow up on topics from the initial focus group.

Each of these interviews functioned as forums through which key administrators could communicate the philosophy and related goals associated with community connection. Though

an interview guide was used, questions were intentionally broad so as to leave space for conversational exploration and allow participants to speak freely. Thus, the interview component of this research was somewhat conceptual and functioned as a way to guide later field observations. In addition to the key personnel interviews, one four-hour ride-along was performed with a county deputy in which extensive notes were taken, including details about COP relevance to events and encounters occurring during the ride-along. The research also included a two-hour tour of the county jail and a corresponding interview with the major conducting the tour. Extensive field notes were taken during the tour of the jail based on qualitative observation and insight offered from the officer conducting the tour. All interview and field notes were compiled, organized in a Word file, and analyzed with color codes to locate relevant themes, concepts and ideas. Analysis was also supplemented with literature from both agencies including newsletters, mission statements, and other documents related to COP.

Results

Findings of the current study consist of three sections. First, through analyzing interview notes and related documents, an overview is presented of current COP initiatives. Next, field experience from the ride-along is presented, including interactions with the deputy, details concerning citizen interactions, and relevance to COP values and ideals. Finally, an analysis is offered concerning the tour of the county jail, including some interesting ways in which COP philosophy is being applied non-traditionally in the context of corrections. Three distinct themes are identified among the data and are discussed throughout each section.

Sheriff's Office Focus Group

The first interview was a focus group conducted at the Sheriff's Office headquarters. Participants included the sheriff, a colonel, a law enforcement division commander, community affairs director, and corrections sergeant. Each of the key personnel included in this group had unique influence on the implementation of current COP initiatives. The sheriff and the division commander, in particular, were responsible for the conception and application of the "rightful policing" philosophy at the sheriff's office.

The focus group opened with the sheriff offering a brief chronology of the past ten years at the sheriff's office, with specific attention to the formation (and transformation) of COP initiatives. This chronology began with the sheriff's initial election to office in 2009 and his immediate attention to community-oriented initiatives. According to the sheriff and the division commander, one initial step included reform or termination of dated COP programs from the 1990s which were still in place. One such example given was the use of designated storefront spaces for COP engagement. This dated COP technique was discussed by the sheriff as a poor use of the agency's budget due to its ineffectiveness. The sheriff described 2009 as the year in which dated COP initiatives began to be reassessed and ultimately tailored to the newly adopted rightful policing philosophy. According to the division commander, with these changes came an emphasis on "intelligence lead policing" or ILP, and a corresponding emphasis on crime prevention rather than solely reactionary policing. The division commander referred to this process with the analogy of "spear fishing" rather than "net fishing." This attention to ILP and the function of crime prevention was noted as a fundamental component of the rightful policing philosophy assumed by the sheriff's office and noted by Meares (2013). It also signifies the first salient theme identified from the interview responses: a *customer service mindset* which views community members as stakeholders with the regulative power of approving or disapproving of

law enforcement performance. This term was used by the community affairs director and was affirmed by the sheriff's and others' emphasis on efficient use of agency funds.

Continuing the chronology, the sheriff described 2016 as the year in which rightful policing was introduced as the official philosophy of the sheriff's office. Noted by the colonel, the 2016 events of Ferguson, Missouri and the corresponding investigation of the Ferguson Police Department, played an important role in renewing the relevance of COP and initiatives related to procedural justice. This corroborates the phenomenon noted by Ahlin & Gibbs (2012) that COP relevance has been altered by historical events and related public awareness. Beginning with the 2016 launch of rightful policing, the sheriff's office initiated two unique programs focused on working with community leaders. The most notable of such programs was a "rightful policing workshop" in which the sheriff's office partnered with teachers and faculty of a local middle school to provide a day-long event intended to teach students about unique aspects of law enforcement. This event was noted by multiple focus group participants as a successful educational event for both students and officers as it promoted interaction between the two groups. Another practical aspect of rightful policing is community engagement at crime scenes. According to the division commander, community members are allowed to enter an inner circle at crime scenes as a way to gain information about the crime as well as offer relevant information to law enforcement officials. This practice was adopted as a rightful policing initiative in an effort to strengthen officer-community relations, in accordance with COP principles (Goldstein, 1987, p. 7). Corrections (the jail) was emphasized by multiple participants as an important context for rightful policing application. This application of rightful policing represents a unique and interesting approach to ethical policing which expands aspects of COP

philosophy and applies them to areas outside the traditional scope. This topic will be expounded on in the section devoted to the tour of the jail.

Rightful policing, as conceived by this sheriff's office, can be understood as a philosophy which broadly covers all aspects of ethical police conduct and includes as a sub-category COP principles. This was made clear with the hesitation of the focus group participants to use the term "community-oriented policing." Despite this, and according to the descriptions of the focus group participants, rightful policing shares characteristics with traditional COP, primarily in its emphasis on procedural justice. This emphasis, also noted by Meares (2013), was apparent in the responses of multiple focus group participants. The phrase "not can you, but should you," was mentioned by the colonel in the focus group as a guiding principle of rightful policing. Meares (2013) unpacks this sentiment with reference to police conduct, stating that some actions may be lawful yet not procedurally just (p. 4). Rightful policing seeks to achieve both lawfulness and procedural justice by establishing legitimacy which causes the community to view law enforcement as rightfully possessing sanctioning power (p. 3). *Not can you but should you* serves as the second salient theme identified in the focus group interview. This theme's emphasis on procedural justice and the establishment of legitimacy within the community was identified as a vital component of rightful policing within the sheriff's office.

Community and culture was identified as a third theme drawn from the focus group. This dual concept was referenced repeatedly throughout the duration of the interview and was understood to have both external and internal applicability. First, perhaps obviously, the external function of this theme is rightful policing's aim to influence the community and culture of areas being serviced to partner with law enforcement in preventing crime. This is in line with the traditional COP tenet of establishing trust within communities and thereby aiding in crime

deterrence (Chappell, 2009, p. 7; Goldstein, 1987, p. 7). Rightful policing initiatives such as the youth workshops and citizens police academy are two examples of the way in which the sheriff's office seeks to engage local community and culture.

The internal applicability of the community and culture theme can be understood as the effort of the sheriff's office to establish rightful policing as part of the agency's organizational culture. This concept was highlighted by a comment made by the sheriff about the potential detriment of assigning only special units to COP-related activities, but rather that all officers should be responsible for furthering these values. Additional comments were made by multiple interview participants about the importance of establishing rightful policing philosophy as part of the fabric of the agency. Broad efforts to accomplish this goal were described as including rightful policing philosophy in training curricula and the use of transformational leadership among key administrators to create agency-wide buy-in. This process of forming the sheriff's office organizational culture to align with rightful policing can be understood uniquely through the lens of role theory. While traditional conceptions of a police officer's role may be understood primarily as "law enforcer," the rightful policing philosophy seeks to adjust this conception to that of "crime preventor," an agent who partners with communities to proactively deter crime (Torres, Reling, & Hawdon, 2018). Thus, role theory, which seeks to explain individual action based on understood roles, is applicable to the effort of this agency to establish rightful policing in organizational culture by aligning officer role perception with desired values (Miller, 2019).

In summary, the information gathered from this initial focus-group composed of key personnel from the sheriff's department can be categorized into the three themes of *the customer service mentality, not can you but should you, and community and culture*. The customer service mentality theme views the surrounding community as the body which holds the power of

accountability for the agency; intelligence-lead-policing and a broad emphasis on the responsibility of crime-prevention promote an efficient and effective law enforcement agency. *Not can you but should you* represents the rightful policing value of holding officers to both lawful and rightful conduct; this is accomplished by establishing legitimacy through procedurally just interaction with the surrounding community. Finally, *community and culture* represents the intention to establish partnership and collaboration with the local community to aid in crime prevention; this is achieved externally through positive law enforcement-community interactions and internally by uniting the agency in rightful policing philosophy. These three themes serve as guides for the field research contained in the following sections.

Ride-along

For the purpose of this study, the sheriff's department granted the opportunity for the researcher to participate in one ride-along with a deputy. The ride-along lasted four hours and allowed for the observation of multiple officer interactions with community members as well as interaction with fellow zone partners. The officer was aware that the ride-along was being conducted for the purpose of a research project on rightful policing. As such, the officer prompted discussion on the relevance of rightful policing to various events that occurred during the ride-along.

The officer noted the specific importance of body language during encounters with the public. Comments were specifically made about the power of body language in influencing the outcome of an interaction. The intricacies of body language were discussed after several interactions with community members, including three calls to serve arrest warrants, multiple traffic stops, and the inquiring of local businesses while searching for a missing individual. Knowledge on the part of

the officer regarding the importance of body language during these interactions was in line with the second theme (“*not can you but should you*”) identified from the focus group. For example, it would not be illegal for the officer to exhibit negative body language in every interaction they had however, according to rightful policing philosophy, treating community members with respect, and being mindful of the power of positive body language is an important method for establishing legitimacy. The officer appeared to demonstrate an adequate understanding of this concept.

During the ride-along, the officer made an analogy comparing traffic stops to the act of fishing. According to the officer, once someone is pulled over and their identification is checked, there is the potential that the individual will be linked to some type of criminal activity; similar to the act of casting a fishing line in a certain spot and hoping for a bite. The analogy was interesting as it seemed somewhat contradictory to the analogy made by the division commander of “spear fishing” rather than “net fishing.” This was noted as a potential disconnect from the first theme (customer service mindset) identified from the focus group, especially because each stop was prompted by a minor infraction (e.g. broken brake light, improper use of roundabout) with the seeming expectation that it might lead to something larger.

Through the duration of the ride-along, the officer made mention of a county-wide social-media type platform through which relevant events and information could be shared. This platform, which was used by the officer during their shift, serves as an example of the internal community and culture theme identified from the focus group interview. Similar to the function of public social media platforms, this technology used exclusively by the county has the potential to promote cultural connectedness, including rightful policing initiatives. A second way which the community and culture theme was observed during the ride-along was in the officer’s

interactions with youth and children. During an encounter with two teenagers, the officer made attempts to ease tension through humor and also asked questions about the youth's goals and aspirations. This was described by the officer as a method for building trust, especially among youth. The officer also explained how part of their daily routine involved stopping at a local recreation center to greet children and hand out toys. This was emphasized as an important activity in the way it encourages trust between law enforcement and younger individuals.

The Jail

Included in the scope of this study was a two-hour tour of the county jail which services the sheriff's department. A major conducted the tour by guiding the researcher through each of the three wings, with special emphasis on relevant locations such as the intake department, chapels, and community outreach offices. This aspect of the research was particularly notable because the historical emphasis on patrol officers and the surrounding community positions corrections as outside the scope of traditional COP initiatives. The sheriff's office included in this study has placed a strong emphasis on rightful policing within the jail and has even applied the term "rightful corrections" to define the philosophy of jail operations. As noted previously, this was a recurring topic addressed during the focus group and the extensive tour allowed for field observation of the various rightful policing initiatives located within the jail.

Since the full launch of rightful policing in 2016 sheriff's office administrators have initiated a number of changes within the jail to align corrections operations with rightful policing philosophy. Two of such changes which were observed and discussed toward the beginning of the tour are "open booking" for inmate processing and increased direct supervision for inmates. Open booking refers to a method of inmate processing which involves an open room supervised

by corrections personnel where all who are to be processed wait together. This is different from traditional booking methods which typically involve placing individuals into holding cells while they wait to be processed. The change to open booking, which came simultaneously with the sheriff's office launch of rightful policing, was made as an effort to make the booking process more efficient while also avoiding isolating inmates. According to the major who conducted the tour, this change has been highly successful as booking wait times have decreased dramatically, streamlining jail operations and also decreasing the likelihood of belligerency from inmates (noted by the major as a common occurrence caused by long wait times of previous booking methods). This change to open booking was noted as an example of the customer service mindset theme with its emphasis on efficiency.

Increased direct supervision is a second recent change which has been implemented as an effort to decrease inmate isolation. Direct supervision serves the dual purpose of promoting positive social interaction among inmates and preventing violence and vandalism (<https://nicic.gov/strategic-inmate-management>). The use of direct supervision in the jail is aligned with the community and culture theme. Accompanied with these two initiatives of rightful corrections is also a general departure from the use of iron bar cell doors and other aspects of traditional jail aesthetic. The north wing of the jail, built in 2002 and the newest section, was designed specifically to enable direct supervision and has little resemblance to the traditional jail environment. During the tour, the major noted that this newest section of jail is a model for future structural updates to older sections of the jail. The north wing also represents many of the changes that exemplify the rightful corrections philosophy.

Two additional initiatives in the jail which are an outgrowth of rightful corrections philosophy are "reentry pods" and job fairs. The reentry pods, which were created in 2015, are

sections of jail where inmates are transferred who are close to being discharged, and who demonstrate interest in taking advantage of resources offered by the jail. There are two reentry pods, one known as the recovery pod which services inmates with substance abuse problems, and another known as the veteran pod which is designated specifically for inmates who are veterans. The recovery pod offers access to daily Alcoholics Anonymous and Narcotics Anonymous meetings, as well as counseling services to aid inmates with substance abuse. During the tour of the recovery pod, the major drew attention to a calendar accessible to all inmates which showed the date and time of meetings and groups that are offered. The recovery pod is supervised by corrections personnel, however it is serviced by a number of volunteer workers from the Salvation Army. These volunteers aid in the rehabilitative nature of this pod through their experience in working with individuals who struggle with substance abuse. The veteran pod offers similar resources to the recovery pod but is specifically designed to connect inmates with resources for veterans. Upon transfer to either reentry pod, inmates are assigned a treatment specialist who builds a case plan which is used to set goals and track progress. These case plans are developed through an initial interview in which questions are asked regarding education, vocational experience, and residence. Through this interview the treatment specialist is able to determine best steps to prepare the inmate for reentry. One notable difference between the reentry pods and other areas in the jail is the presence of windows. The natural light found in these areas was noted as a way to boost the morale of inmates who anticipate reentry.

Job fairs were noted by the major as a recent initiative of rightful corrections which are also designed to help prepare inmates for reentry. The major noted that the most recent job fair involved participation from several local businesses and ultimately resulted in multiple job offers for inmates to begin upon discharge. The major, who was instrumental in the formation of this

program, spoke with excitement about the opportunities created by initiatives such as this and the rewarding nature of helping inmates successfully reenter society.

These two programs represent the rehabilitative aim of rightful corrections to reduce recidivism by providing inmates with resources that will help to promote prosocial behavior while incarcerated and help them to succeed when they reenter society. When described by the major these efforts were referred to as a way to “create one less victim.” This phrase was also used by the colonel in the focus group and was identified as part of the customer service mindset theme. The fact that this same concept was identified as a guiding force for corrections operations suggests unity among the sheriff’s office regarding this aspect of rightful policing philosophy. The customer service mindset theme was noted as applicable to corrections in the same way as patrol; preventing crime through effective and efficient use of agency resources. Additionally, these initiatives represent alignment with the *not can you but should you* theme in the way they go beyond the traditional scope of corrections. Though this theme was identified in the focus group as a guide for patrol officers to act in both lawfully and procedurally just ways, the application to corrections which calls corrections officers to the high standard of treating inmates with dignity is also aligned with the goal of establishing legitimacy through *rightful* use of authority.

The *community and culture* theme was observed broadly through these efforts to provide support for inmates. As noted during the focus group, part of this agency’s goal for rightful policing is to transform the surrounding community through positive interactions with law enforcement. This goal is clearly seen in the mission of rightful corrections to reduce recidivism by providing support and resources to inmates. During the tour, the major recalled multiple stories of encounters with individuals in the public who were once inmates and who expressed

gratitude for the opportunities and support offered through the resources of the jail. As the rightful corrections philosophy continues to guide jail operations toward the values of restoration, rehabilitation, and dignity, the goal of community transformation is furthered as greater numbers of inmates reenter society having had positive interactions with law enforcement while in the jail.

Conclusion

Through this case study, the researcher gained a thorough understanding of the rightful policing philosophy as uniquely applied by this county sheriff's department. This philosophy, which shares similarities with traditional COP, can be viewed as a modern iteration of such initiatives, and as such represents a relevant addition to the present body of research. The three themes identified from the focus group, *customer service mentality, not can you but should you*, and *community and culture* can be viewed as unique artifacts of this agency's adaptation of the rightful policing philosophy. The research process revealed various ways in which this philosophy is applied practically by both patrol and corrections deputies through a ride-along and tour of the jail. Though observed practical applications of rightful policing during the ride-along were limited, attention to body language and engagement with young people in the community represented two ways in which patrol officers practice this philosophy. The jail was identified as demonstrating multiple initiatives aligned with rightful policing philosophy, with the associated term "rightful corrections." This emphasis on rightful policing within the jail is notable because it is a departure from traditional functions of COP, which deal primarily with patrol officers. The many programs associated with rightful corrections identified in this county jail indicates this sheriff's department's unique application of the rightful policing philosophy to corrections. This could indicate that future iterations of COP will also include an emphasis on corrections. Finally,

by applying insight from role theory to the three themes identified in this research, it is clear that rightful policing champions a community-oriented role for police officers. By pushing back against elements of traditional law enforcement culture (e.g. crime prevention), each of the three themes uniquely contribute to a role perception that emphasizes community collaboration and engagement.

Limitations & Future Research

Several limitations prevented the present study from achieving the scope of research initially intended. First, qualitative field observation of rightful policing training would contribute to a more robust understanding of the way this philosophy is passed down to new recruits. Second, additional ride-alongs would provide a more thorough understanding of the way rightful policing is internalized and practiced by patrol officers. The singular ride-along included in this study provided valuable insight, however additional ride-alongs would create the opportunity for generalizability.

Future research should focus on the individual perceptions of officers regarding these initiatives. Indeed, the original intent of this research was to conduct interviews with individual officers in order to develop understanding of the thoughts, opinions, attitudes, and perceptions of rightful policing. However, limitations of accessibility made it necessary to pivot the focus of the research to that of a case study. Finally, in keeping with the customer service mindset theme, future research should also focus on public perceptions of law enforcement in the wake of these initiatives. In particular, longitudinal data of the public's perception of law enforcement would allow researchers to identify the effectiveness of these kinds of initiatives on public perception.

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Factors Associated with Adult Deaths Caused by Prescription Opioid Use in Conjunction with Alcohol, Marijuana, Methamphetamine, or Cocaine

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Abstract

Deaths associated with the use of prescription opioids have been increasing rapidly for the past decade. Accelerated use of prescription opioids is currently fueled by the growing number of doctors willing to prescribe them, the social acceptance of using medications without stigma, and aggressive tactics used by pharmaceutical companies to market their products and increase sales. These medications include codeine, oxycodone, morphine, fentanyl, and hydrocodone. Misuse of these drugs can be fatal, with the deceased victims falling into two categories (cause of death): those who died from prescription opioids with no other drugs or alcohol consumed, and those who died from prescription opioids plus another substance. This study examined the frequently researched factors associated with prescription opioid mortality in an attempt to provide insight for the criminal justice community, and assist in prevention. Two of the three factors were found to be statistically significant: age and biological sex. The third factor, racial background, had no impact on the dependent variable: cause of death.

According to the National Institute on Drug Abuse (2018b), prescription opioids are medications designed to reduce the intensity of pain-signal perception, and are most commonly used to address acute and chronic pain. Prescription opioids have become problematic, because they are similar in chemical composition to heroin, and produce a euphoria with an increased risk of abuse, often leading to death. Popular prescription opioids include codeine, oxycodone,

morphine, fentanyl, and hydrocodone, with the latter being the most commonly prescribed (National Institute on Drug Abuse, 2018b).

The increase in prescription opioid deaths since 1999 has been identified as a crisis by federal, state, and local governments. However, it was not until 2011 that the White House developed a strategy to combat the prescription opioid overdose epidemic (National Institute on Drug Abuse, 2018a). Approximately 70,000 individuals died from drug overdoses in 2017, and 68% of those deaths (47,000) were by prescription or illicitly obtained opioids. In 2019, the Centers for Disease and Prevention Control (CDC) reported drug overdose as the leading cause of injury-related deaths in the United States.

At the national level, the CDC (2018) identified several “evidence-based” strategies for effectively preventing opioid overdoses: medication-assisted treatment, academic detailing, medications that have no prior-authorization requirements, routine testing for Fentanyl in clinical settings, 911 Good Samaritan Laws, and Naloxone distribution in treatment and criminal justice settings. In response to the example set by federal authorities to fight this crisis, state and local authorities are taking steps to eliminate the problem as well. In Georgia, where opioid deaths have increased at more than twice the rate of the national average (Jayawardhana, et al., 2018), the Substance Abuse Research Alliance (2017) reported measures taken to address the epidemic: 1) Increased access to opioid treatment and Naloxone; 2) increased funding for prevention education and physician education; 3) creating a commission on substance use recovery and neonatal abstinence; and 4) strengthening prescription drug monitoring programs with increased oversight of pain clinics.

The epidemic comes with a substantial social and economic cost. According to Birnbaum et al. (2011), in 2007, the overall cost of the prescription opioid epidemic nationwide was

approximately \$55.7 billion. Officials in Fulton County, Georgia, are seeking to recover some of those costs, and have taken legal actions against distributors, manufacturers, and doctors, who are allegedly responsible for illegal distribution. In fact, Fulton County, Georgia, which is where this study took place, filed a 258-page complaint that accused drug companies of minimizing opioid addiction, and using deceptive marketing practices in order to increase sales (Redmon, 2018). Additionally, pharmaceutical companies are actively engaged in minimizing the number of prescription opioid-related deaths (Redmon, 2018). The purpose of this study is to analyze commonly researched factors associated with opioid-related deaths between 2014 and 2016 in Fulton County, to analyze the impact of using multiple substances as a contributor for the increase in those deaths, and to make recommendations on prevention.

Literature Review

Roxburgh et al. (2017) examined trends in opioid overdose deaths by opioid type (heroin and prescription) between 2001 and 2012 in Australia. Out of 8547 cases of opioid overdose deaths, 34% were heroin overdoses, and 58% were resulting from opioid prescriptions. Among the factors examined in that study were age, gender, and intent of death. The overall trend showed that heroin deaths did not increase significantly over the period, however, prescription opioid deaths did increase.

Chihuri and Li's (2017) analysis of traffic-fatalities connected both prescription opioids and elevated blood alcohol concentrations with other drug use, but those findings were restricted to deaths caused by injuries inflicted in the accident, which leaves unanswered questions regarding the impact of using multiple substances as a contributor to the increase in opioid-related deaths. This notion was briefly explored by Kandel, Hu, Griesler, and Wall (2017), whose research analyzed the interaction between psychoactive substances and prescription

opioid overdose deaths, and their findings concluded that a link is likely. By comparing different time frames, those findings suggested the possibility of opioid-related deaths being associated with polysubstance use. That demonstrates the need for further research on the influence of psychoactive substances, such as alcohol, marijuana, methamphetamine, and cocaine in combination with prescription opioids that result in death.

In a follow-up study, Griesler, Hu, Wall, and Kandel (2019) examined the medical use and misuse of prescription opioids in the U.S. adult population from 2016 to 2017. Using data obtained from the National Surveys on Drug Use and Health, their findings demonstrated a link between marijuana, benzodiazepine, and heroin among individuals who misuse prescription opioids. These findings further support the investigation of polysubstance use with misuse of prescription opioids, when it is revealed as a primary factor in the cause of death. The National Institute on Drug Abuse (2018a) identified three different paths to addiction among heroin users in Chicago: 1) The path from prescription opioid abuse to heroin use; 2) the path from polysubstance abuse to heroin use, and 3) the path from cocaine use to heroin use, the most common being path number two: polysubstance to heroin. Four percent of the individuals using prescription opioids to the pathway of heroin use (path number one) may already be predisposed to polysubstance use.

Esther, Carole, and Traci (2014) examined the gender differences in emergency department (ER) visits related to nonmedical-prescription opioid use. With a national sample size over 1 million, 24% of the emergency department visits were related to nonmedical use of prescription drugs and 39% involved opioids. The damage visited upon our society by this scourge is alarming. Although these authors found no significant differences between men and women in the number of ER visits, the implication seems to suggest that the epidemic is now

reaching an undesirable degree of gender-equality, particularly because these findings were similar regardless of age and racial background.

Green et al. (2010), analyzed the epidemiology and the geographic distribution of accidental deaths related to opioids, and determined the leading cause of injury deaths among adults in Connecticut between 1997 and 2007 was drug poisonings. The historical data, obtained from the Office of the Chief Medical Examiner, attempted to uncover any risk factors related to opioid intoxications compared to deaths associated with heroin, prescription opioids, and methadone. They mapped the death locations to uncover geographic patterns of 2900 drug poisoning deaths; 2231 (77%) of which were attributed to opioids. That study concluded that heroin-only deaths were primarily associated with non-whites, and likely to involve alcohol or cocaine, while prescription opioids-only were most likely to include another type of medication. The study focused primarily on geographic differences by opioid type and risk factors.

Using data from the Office of the Chief Coroner of Ontario, Singh et al. (2018) examined the role of alcohol in 737 opioid-related deaths in 2015, noting that the majority of the deaths were men living in low socio-economic urban areas, half of which were 45 to 65 years-of-age. The study found 25% of the decedents were previously diagnosed with alcohol use disorder, but failed to examine any links with marijuana, methamphetamine, and cocaine. Monnat et al. (2019) examined opioid mortality rates across the U.S. between 2014 to 2016, using labor market characteristics, demographics, and socioeconomic factors at the county-level. Those researchers concluded that the drug mortality rates were highest in counties with an economic disadvantage, and those with higher numbers of opioid prescriptions among service industry and blue-collar workers. Also, that economically-disadvantaged counties were less likely to use heroin class drugs. The current study builds on these findings, and further examines age, sex, and race factors

as well. Data from the California Electronic Death Reporting system records, and the San Francisco Medical Examiner's office for the years 2006 to 2012, provided insight on 816 unintentional opioid-overdose deaths. Twenty-five percent were by heroin injection, the modal category in that study, with 205 decedents (Hurstak, et al., 2017).

There is data from The National Institute on Drug Abuse (2018a) that further supports the need regarding the polysubstance pathway. Young adults who transitioned from non-injection drug use to injecting opioid pain relievers before converting to injecting methamphetamine or heroin informs the notion that a pathway to polysubstance use via prescription opioids and heroin is becoming a widespread problem. Boslett et al. (2019) examined economic disparities in unclassified deaths by drug overdose, and found not only geography, but biological sex and education factors played a role as well. Surprisingly, White, Non-Hispanic females, aged 30-59, with college education had higher rates of unclassified drug-overdose deaths.

The forgoing research points to the need to acquire evidence on the connection between prescription opioid-deaths and polysubstance use, while considering age, race, and gender factors. Clearly, there is a need to further investigate the difference between decedents who engaged in polysubstance use in addition prescription opioid use, and decedents who engaged in prescription opioid use alone, and to include a variety of covariates (gender, race, and age) in the analysis. This study intends to fill gaps in the research regarding interactive effects of opioid and polysubstance use leading to death.

Methodology

Sample

Fulton County, located in North Georgia, where approximately 10% of Georgia's 10.3 million persons reside, is 48% male, 45% Caucasian, 44% African-American, 7% Asian, and 7%

Hispanic (U.S. Census Bureau, 2018). The subjects in this study are taken from a population consisting of 287 opioid-related deaths occurring from 2014 through 2016 as identified by the Fulton County Medical Examiner's Office. To be included in the study, data on the subjects needed to contain information on the decedent's age, biological sex, and race, in addition to the primary cause of death: prescription opioids only, or polysubstance use. Polysubstance use is defined as prescription opioid plus one or more of the following drugs: cocaine, methamphetamine, marijuana, or alcohol.

To comprise a coherent study-group, 35 cases were excluded because primary cause of death was either not specific, was not relevant to the research, or information was otherwise incomplete, leaving 252 decedents whose death was attributed to opioid overdose during the time period. Two more subjects in the study group were later excluded because the cause of death did not involve prescription opioids, but rather, death caused by heroin. Because the focus of this research is adult deaths, an additional three decedents among the subjects in the study-group were excluded because they had not reached 18 years-of-age.

Variables

This study is investigating the cause of death among persons who had been identified by the Medical Examiner's Office as having been attributed to prescription opioids. Therefore, the analysis of the variable of principle concern is a dichotomous dependent variable: cause of death (opioid-only or polysubstance). The independent variables in this study are biological sex, age, and race. Using those three independent variables, three hypotheses were formed to ascertain if the difference in observed cases of cause of death (between levels of the factors examined) could have occurred by chance.

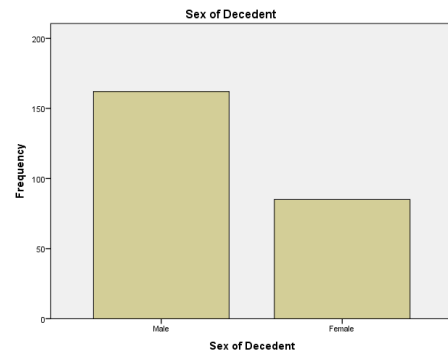
H₁: There is a statistically significant difference among opioid-only deaths and polysubstance-user deaths between the two levels of biological sex (male and female).

H₂: There is a statistically significant difference among opioid-only deaths and polysubstance-user deaths between the two age-groupings (age-39 and below or greater than age-39).

H₃: There is a statistically significant difference among opioid-only deaths and polysubstance-user deaths between the racial background-groupings (Caucasian or African-American, Latino, and Asian).

Data Analysis

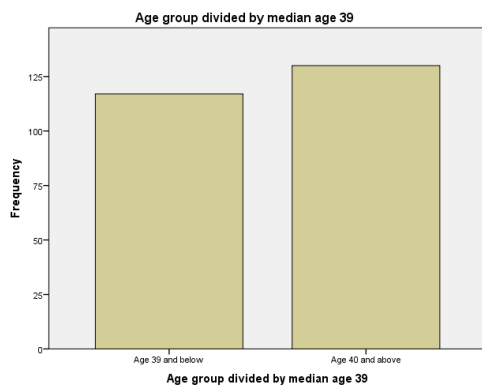
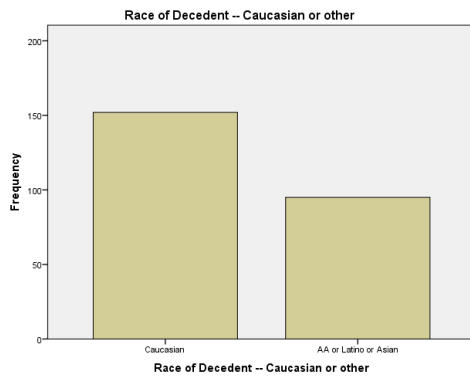
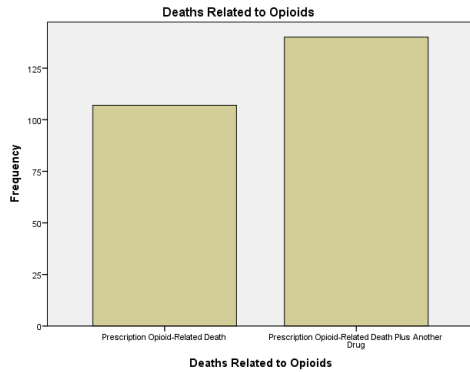
Statistical analyses were performed using IBM SPSS 24 to determine if the prevailing factors associated with opioid deaths produced verifiable patterns among users whose death was attributable to only opioids, and those decedents who used opioids and either cocaine, methamphetamine, marijuana, or alcohol (polysubstance use). A two-way Chi-Square procedure was chosen because we used the dichotomous independent variables biological sex, age, and race, in the analysis of the dichotomous dependent variable cause of death. This was necessary because some cells in the original variable format did not have enough cases to proceed with the Chi-Square procedure otherwise.



Results

Descriptive Statistics

The final data-set received from the Fulton County Medical Examiner’s Office on deaths

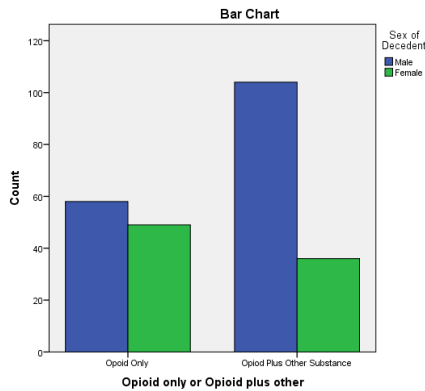


in Fulton County that were attributed to opioids produced a study-group of 247 decedents. There were 162 males and 85 females. By death type, 107 victims died by ingesting prescription opioid medication alone, whereas 140 died by poly-substance use (prescription opioid plus one or more of the following: marijuana, methamphetamine, alcohol, or cocaine). Of the 247 subjects, 152 were Caucasian (62%), 87 were African-American (35%), and the remaining eight decedents were Asian (5) and Latino (3). Since the latter two categories were under-represented, (1% and 2% respectively), the variable “Race of Decedent” was recoded, grouping Caucasian and Non-Caucasian decedents dichotomously by racial background. The subjects ranged from 18 to 68 years-of-age, with a mean of 39.77-years-of-age. With the median age of the study group also at age-39, the variable age was recoded into a dichotomous nominal

variable at the median age of 39 and below, and age-40 and above.

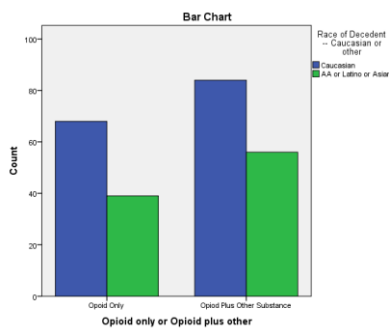
Inferential Statistics

The first factor examined in the study was biological sex. The data revealed that the null hypothesis that corresponded to H₁ (male and female) was rejected because significant



differences were found on the independent variable gender across levels of the dependent variable prescription only or polysubstance $\chi^2_{(1,N=247)} = 10.834$, $p = .001$. The effect size, as expressed by Lambda, was 12%. The women deaths investigated in this study were less likely to be caused by the use of

additional substances when taking prescription drugs (42%), whereas male fatalities were typified by a pattern of using a combination of drugs when taking prescriptions (64%).

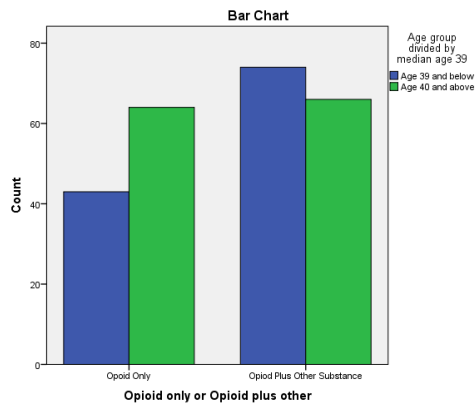


The second factor examined in the study was racial background. The data revealed that the null hypothesis that corresponded to H₂ (Caucasian or other racial background) failed to be rejected, because no significant differences were found among the independent variable racial background

across levels of the dependent variable prescription only or polysubstance $\chi^2_{(1,N=250)} = 0.323$, $p = .570$.

The final factor examined in the study was age. The data revealed that the null hypothesis that corresponded to H₃ (age 39 and below, or age 40 and above) was rejected because

significant differences were found on the independent variable age-group across levels of the



dependent variable prescription only or polysubstance

$\chi^2_{(1,N=250)} = 3.905, p = .048$. Younger

decedent-deaths investigated in this study were more

likely to be caused by the use of additional substances

when taking prescription drugs (63%), whereas among

those fatalities who were age 40 and above were

typified using only prescription opioids (37%).

Discussion

Biological Sex

Internationally, authors are united in their findings regarding biological sex: men use and are harmed by prescription opioids in greater numbers, but women are currently at greater risk, and our study was in agreement with those findings. Just as Roxburgh et al. (2017) found Australian males had a much higher death rate among prescription opioid users, we found males to be higher in the polysubstance category. That study found female deaths by prescription opioids were increasing at a faster rate (females increased threefold from 9.6 to 28.9 compared with 6.1 to 15.4 among males), the gender differences we discovered amplify the increasing risk for females in Fulton County.

This trend is also evident in Canada, where Agterberg, Schubert, and Corace (2018), discovered similar findings. This increased risk for females alarms public health officials in Georgia, who, like in Australia and Canada, find men more likely to die from an opioid overdose than women, but the rate of opioid-related deaths for women is increasing at a more rapid pace. Recent data analyzed by Silver and Hur (2020) found that although men were more likely than

women to report prescription opioid misuse, women were significantly more likely to report prescription opioid use for both their lifetime and the past year. And, reinforcing how similar and consistent these findings are to our own, their differences remained significant after accounting for other demographics. The current study also had similar findings as Agterberg, Schubert, and Corace (2018) in terms of biological sex. We found that 64% of males died from the pattern of using a combination of drugs when taking prescription opioids, while women was 42%. So the present study, along with the other three discussed here, have findings in lockstep: males were more likely to die from an opioid-related death with or without a combination of drugs. And, although male pharmaceutical opioid deaths have increased faster over the long term, short-term data show women advancing at a disturbing rate. Currently, Fentanyl patch prescriptions are higher among females than males. With our findings confirming that male-deaths were more likely to occur among poly-substance users, policies that target females may be able to limit their rapidly accelerating rate of opioid-deaths overall. This conclusion holds true especially in view of the success rate experienced by subjects who have had their prescriptions restricted, and whose elevated treatment access gave them the chance to break free of opioid-dependence.

Age

The Roxburgh et al. (2017) study examined age as a factor among subjects who were prescribed fentanyl using 10-year age groups (those aged 20–29 years, 30–39 years, 40–49 years, 50–59 years, 60–69 years, and 70–79 years). Since all of those decades showed a significant increase, it became of interest to us to explore if there was a point at which researchers might be able to identify additional factors that will inform comprehensive policy. Since the median age of death in the Australian study was 39 years, and both the mean age and the median age in the current study was 39 years, the current study dichotomized age by those below age-39 and those

age 40-and-older. With age, while heroin deaths did not change or decrease over time between age groups, opioid deaths increased across all age groups. Although the findings across age-groups are not as salient or alarming as those among biological sex, they still have the potential to inform future research exploring the factors associated with opioid-deaths.

Prevention

This study highlighted the relationship between opioid-related deaths and polysubstance use. Though preventive measures are being taken at the federal, state, and local levels to reduce opioid addiction and deaths, few studies address prescribing opioids to individuals who previously or currently use other drugs such as alcohol, marijuana, heroin, methamphetamine, or cocaine. In September of 2019, the CDC (n.d.) announced a three-year cooperative agreement with Overdose Data to Action to focus on the crisis. The agreement utilizes a public health, interdisciplinary, and comprehensive approach to suppress drug overdoses. Components of this initiative include the collection of data from emergency rooms and descriptions of drug overdose deaths obtained from the medical examiner and coroner autopsy reports (CDC, n.d.). A follow-up study will be needed to determine if the Overdose Data to Action was an effective plan for reducing drug overdoses.

The authors would also suggest collecting data from primary physicians who have patients that die while hospitalized (inpatient). In some cases, those deaths are not reported to a medical examiner or coroner, thus leaving important data uncollected. For individuals who die in the emergency room, it is more difficult to obtain a medical history, especially if they are presented in an unconscious state. While inpatient, the physicians should be able to obtain a full medical history, and determine whether there was previous or current use of alcohol, marijuana, heroin, methamphetamine, or cocaine. If so, physicians would be more informed in the

diagnosis, and may even refrain from prescribing opioids to the patient. The results of this study demonstrate the heightened risks associated with prescribing opioids to an individual that is using alcohol, marijuana, heroin, methamphetamine, or cocaine.

These findings address a critical public-health issue, and highlight the importance of educating the public, healthcare professionals, and criminal justice officials about reducing overdoses by polysubstance users who are prescribed opioids. Healthcare professionals need to be fully transparent with their patients regarding the risks of taking prescription opioids with alcohol, marijuana, heroin, methamphetamine, or cocaine. The public needs to be better educated by the criminal justice community about the Good Samaritan laws, which provide protections for individuals who report an unintentional drug overdose of another. Although this may not prevent individuals from polysubstance use, the law would assist in reducing the number of deaths. And survivors who are educated by healthcare professionals about the danger of polysubstance use and the risk of death can pass that knowledge on to others.

Overall, the study addresses the high probability of a death outcome when prescribing opioids to polysubstance users. The cause of prevention would be furthered through a collaborative effort among the public, healthcare professionals, and the criminal justice community to overcome this problem. Combining communication and education among physicians and patients, as well as among criminal justice professionals and the public, and among public health officials and the public, would go a long way towards limiting the number of deaths of individuals who are being prescribed opioids while using alcohol, marijuana, heroin, methamphetamine, or cocaine. Those simple prevention efforts may have resulted in fewer deaths related to prescription opioids and polysubstance use in Fulton County, Georgia.

Conclusion

This study expanded the current body of research by examining opioid-related deaths that involved polysubstance use with marijuana, cocaine, methamphetamine, and alcohol. We examined the factors that are frequently found to be statistically significant contributors to explaining variability among users: biological sex, age, and racial background. Although there are frequently statistically significant findings involving drug use between persons with different racial background, among the decedents in this study, racial background seemed to play no role.

The findings of recent studies have enlightened the research community and produced an awareness of the urgent need for formulating reduction and prevention policies. Our findings demonstrate that policies aimed at prescription-opioid users, particularly those that also use other drugs, including ethanol, cocaine, methamphetamines, benzodiazepine, or heroin, may gain traction in efforts geared toward the reduction of deaths. Although more work needs to be done, this study has provided grounds for further investigation of the factors common to individuals who misuse drugs along with prescription opioids, because of the potential to be a primary factor in the cause of death. Clearly, there needs to be more emphasis on determining if patients have in the past, or are now, using these other drugs, and if so, restricting the violator's access prior to prescribing opioids.

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The Pursuit



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