UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

DETERMINANTS OF INDIVIDUAL DRUG MARKET PATTERNS: ECOLOGICAL PREDICTORS OF WHERE INDIVIDUAL DRUG USERS BUY THEIR DRUGS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

JAY TRACE GILLIAM
Norman, Oklahoma
2006

Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/1105

UMI Number: 3237838

UMI®

UMI Microform 3237838

Copyright 2007 by ProQuest Information and Learning Company.
All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

DETERMINANTS OF INDIVIDUAL DRUG MARKET PATTERNS: ECOLOGICAL PREDICTORS OF WHERE INDIVIDUAL DRUG USERS BUY THEIR DRUGS

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF SOCIOLOGY

BY

_____
Kelly Damphousse, Chair

_____
Trina Hope

_____
Thomas James

_____
B. Mitchell Peck

_____
Craig St. John

© Copyright by JAY TRACE GILLIAM 2006
All Rights Reserved.

ACKNOWLEDGEMENTS

The completion of this dissertation has involved a number of people; however there are two people that without their love and support none of this would have been possible. I would have never made it to this point in my life without the unconditional love and support of my parents, Ron and Allene Gilliam. You are the greatest parents any kid could have and I just want to thank you for putting up with me. People will never understand all of the things we have been through as a family. Actually, people will never understand the hell I have put you through. I always seem to do things the hard way. I guess that is how I respond to the fact that most things come easy to me. Just know I am sorry for making you both live through all of my difficult times. I wish things could have always been easy, but that is just not how I do things. You both love me the way I am and I thank you for that.

Mom and Dad, I want to thank you for allowing me to make mistakes and work my way through them. It seems that most parents try so hard to protect their children that they end up controlling their kids to the point where they never grow. You never questioned any of the crazy things I did while growing up and you always supported me while I chased my dreams back and forth across the country. It is amazing how many times you both helped me move to another part of the country to start another adventure. This journey began in 1988 and you have lived each step of it with me. I am sure I have aged you both and for that I am sorry, but it sure has been fun.

I also want to thank you both for supporting my decision to leave home at the age of 18 and not being selfish like a lot of my friends parents and pressuring me to stay close to home. The best decision I have ever made was moving to Arizona, it is where I found myself and where we all really learned how much we loved each other. You have always known that I am old soul with a wandering spirit and you never did anything to suffocate that and that makes you the coolest parents on earth. Without your financial support none of what I have accomplished would have been possible. I know you wish you could have helped more and I know you are both get sick when you think about the debt I have accrued, but you always helped when you could and for that I am thankful. I could write an entire book about what all we have been through, but I just want to say thanks for everything and acknowledge to the world how much I love and appreciate each of you. You are both brilliant people and I would be nothing without you.

Next, I would like to thank the members of my dissertation committee. To Dr. Kelly Damphousse, there is no way to ever repay you for everything you have done for me since I arrived at the University of Oklahoma. Without all of the opportunities you gave me I would not be where I am today. I am not sure how you do all of the things you do and it is amazing how hard you work. I wish I had a fraction of your work ethic and abilities. There are so many things I admire about you and I have tried to tell you in private how much you mean to me but in case you missed it, I love you. You were the first person who believed in me as a graduate student and without you I would have never finished anything. Thanks for believing

in me and for never giving up on this dissertation. I know I have not been the easiest person to work with and for that I am sorry. I will always consider you my friend and I hope you will do the same.

To Dr. Trina Hope, you have really saved me these past few months. Thank you for providing a shoulder to cry on and allowing me to inject my problems into your life. You have been a lifesaver and I will never forget it. You were not obligated to do any of the things you have done for me and this just speaks to how great of a person you are. I will always be indebted to you and if you ever need anything please just ask. I also want to thank you for being such a cool professor while I was in graduate school. I have borrowed so many ideas from you while observing how you handled your students and the politics of the job. There are a number of things I do today both in and out of the classroom that I can credit back to you, so thanks for being such an influential person in my growth and development as a person.

To Dr. Craig St. John, thanks for your trust and support. It always meant the world to me that you trusted me to watch your home each time you and your family went on vacation. I always took great pride in the fact that you trusted me enough to allow me into your home. I always worked so hard to make sure you came back home to green grass, plants that were watered, and cats that were alive, even though you wanted to me kill the cats. The reason I did this was because of how much I liked you and I never wanted to disappoint you.

I want to thank you for your sense of humor. You have no idea how many times I have sat around with friends telling Craig St. John stories, your wisecracks are legendary. I also want to thank you for all you have done for my wife. Without your support of her, I am not sure where she would be today. Thanks again for everything.

I would like to thank Dr. Mitch Peck for stepping in as a late addition to my dissertation committee. I wish I could have gotten to know you better and you seem like a great person. Without your willingness to help out I am not sure what I would have done. Thank you for serving on my committee.

I would like to thank Dr. Tom James from the Political Science Department for serving as my outside committee member. I would also like to thank Dr. James for allowing me to work for him during the 2001-2002 academic year. I cannot think of how many times I have been able to use my experience of working on those program evaluations in the classroom and on job interviews. Those times were a great learning experience and I want to thank you for the opportunity to work for you. I also want to thank you for all the effort you put in on my dissertation and for making it a better.

I would also like to thank my former committee member Dr. Harold Grasmick for all of his support. Thank you for allowing Bridget and I to get to know your family and thanks for all the time you spent socializing with us while watching Jacob play football. Those were some of my fondest memories of my time in Norman and thanks for letting us into your world.

Next, I would like to thank my friends from graduate school, Carlos Garcia, John Carl and Kristen Hefley. I want to thank each of you for making graduate school fun. Thanks for all of the conversations, emails, and good times. I also want to thank each of you for never giving up on me and inspiring me to finish my dissertation. I hope we will always stay in touch and I love each of you.

I would like to thank Juanita and Bob Ortiz for their friendship and support. I am so lucky to have you as friends and I am thankful that we took the time to really get to know each other. Juanita, you have been a lifesaver. There is no way I can repay you for all the work you have done in helping me finish this process. I would buy you all the corndogs on earth to repay you but I am afraid you would not share them with Bob. Thanks to you both for opening up your home and lives to me and my family. Bridget and I have really enjoyed your visits to Pennsylvania and we have so much fun just laughing and talking with you both. However, Juanita you have to stop pinching me when I pick on you because it is difficult explaining all the bruises you put on my arms to my students. It is not my fault that your dance moves are so bad. Thanks to both for being great friends and we look forward to years of fun in the future and WE'RE SERIOUS.

I would also like to thank all of the support staff at the University of Oklahoma for their help over the years, especially Leslie Gillies, Kristi Glenn and Debra Hensley-Luczycki. You all made my life much easier and thanks for all of the hard work you do. I would also like to thank Jodie Daffer for her support and friendship. Thank you for always being there when I need you.

I would like to thank Charlotte Cannon and Ann and Oliver Goodin for their love and support during this process. Thanks to each of you for allowing me into your families.

I would like to thank a few of my colleagues at Indiana University of Pennsylvania. To Dr. Erika Frenzel and Dr. Terrylynn Pearlman, thanks for all of your support. I will never forget all of our conversations about the problems we were having with our dissertations. This has been a unique time for each of us and it has been much easier going through it with you both. I hope we will always remain friends and I wish you both the best of luck in the future.

To Dr. Dennis Giever, Dr. Dave Myers, and Dr. Dan Lee, you guys are the best. Thanks for all the good times during this process. Thanks for never asking me about my dissertation while we were hanging out drinking beer and eating wings. You were always there to provide a much needed distraction. Thanks to each of you for allowing Bridget and I to get close with your families. We both love your wives and children and look forward to years of friendship. Thanks Dan and Cindy for allowing us to watch your kids and trusting us not to harm them. Thanks again to each of you for all the laughs and good times these past few years.

I want to thank my good friend Katie Kimberling for making me a better person and inspiring me to do good things. I hope you know how much I love you and cherish our friendship. We look forward each year to your Christmas card and I cannot thank you enough for always being there for me.

I would like to thank Dr. Ron Hardert for encouraging me to attend graduate school and to think critically about the world. I would also like to thank Dr. J.R. Woodward, Dr. Pete Padilla, and Dr. Scott Renshaw, for all the great nights spent drinking beer in Tempe and letting me sponge knowledge off each off them. Those are still the best years of my academic life. I also want to thank each of these individuals for helping me develop my sociological imagination.

Bridget and I want to thank the following individuals for being such beautiful people and for being our friends: Jennifer Auer, Victor and Michelle Houze, Jessica Molina, Ellen Cravens, Cruz and Rocio Mendizabal, Mike, Lisa, Kaela, and Galene Sanders, Dylan and Daniel Cox, April McKinley, Eric and Julie Smith, Jim and Debbie Carr, Dale and Sally, Dave Gonda, Tracy Serbian, Dana Monroe, Joanne Plack, Heather Fairman, Kim Schloder, and everyone else at Milestones, the Coney Island Family, the Mitchell Brothers, and Dottie and Stephanie Hillard. Each of you over the past few years has made our life more fun and enjoyable. Thanks to all of you.

Finally, I would like to thank my beautiful wife Bridget Gilliam, aka The Pinto Bean. Thank you for putting up with me during this process. Most women would have never put up with the things I have put you through. You make me a better person and you give me the strength to accomplish great things. I am so thankful we found each other and I look forward to our life together. You make me laugh and smile and when I look at you I become passionate about living. In our short time together we have shared so many new experiences. I love watching your

face the first time you experience something new and I am proud to have been the catalyst behind your growth as a person.

Bridget you are my best friend and I would be nothing without you. I am so proud of the work you are doing and the positive impact you are having on people. You are amazing and I would have never finished this dissertation without your love and support. I want to thank you for all the good times we have spent drinking cocktails, listening to music and talking about life. Thanks for the times we just drive in the car, listen to music and talk about what we want to do in the future. Thank you for being my traveling companion on all of our adventures. Thank you for taking care Freckles and for walking him outside at night, he is a good boy and he loves you. I also want to thank you for believing in me and trusting that I would not hurt you and that I would love you unconditionally. Thank you for placing your life in my hands and walking away from the people who never gave back to you. I will always love you for that. Finally, thanks for your unconditional support in whatever I do. I know I am a hard person to understand and live with, but you accept me for what I am and you have never tried to change me. I love you for that.

TABLE OF CONTENTS

Contents **Page Number**

Acknowledgements……...iv

Table of Contents…….xii

List of Tables……...xv

Abstract……..xvii

Chapter I – Introduction…….....1

1. Drug Markets……..2

2. Overview…….9

Chapter II – Drug Market Literature Review……..12

1. Drugs and the Market Economy……...12

2. Drug Market Research…..…..…….…….....…..15

2.1 Drug Markets and Violent Behavior…….……...…..15

2.2 Behaviors of Those Involved with Drug Markets…….20

2.3 Drug Market Distribution…….25

3. Summary……26

Chapter III – Routine Activities Theory……..……27

1. History and Assumptions of Routine Activities Theory……..…….27

2. Empirical Tests of Routine Activities Theory…….…….……31

2.1. Victimization and Offender Studies…….…….……31

2.2. Non-Victimization Studies……..……..41

Chapter IV – Development of Research Questions and Data and Methods……47

1. Hypotheses……...…….51

2. Data and Methods…….54

2.1 ADAM Collection Methods……..55

2.2. Cleaning of the ADAM Data……56

2.3. Dependent Variables…….62

2.4. Independent Structural Variables……..65

2.5. Individual Level Independent Variables……...69

2.6. Analytic Technique……...71

Chapter V – Results…..……73

1. Basic Demographics……..……...74

2. Bivariate Logistic Regression Analysis……..……..80

2.1. Summary of Bivariate Logistic Regression Results…….82

3. Multivariate Logistic Regression Analysis…….....89

3.1. Closed-Air Marijuana Drug Markets with Factored Variable….....91

3.2. Closed-Air Crack Cocaine Drug Markets with Factors Variable…….....97

3.3. Closed-Air Powder Cocaine Drug Markets with Factored Variable…..102

3.4. Closed-Air Heroin Drug Markets with Factored Variable…….106

3.5. Closed-Air Methamphetamine Drug Markets with Factored Variable...110

4. Summary of Multivariate Logistic Regression Results…..……..…..113

Chapter VI – Discussion and Conclusion…….…….122

1. Conclusion……..……127

2. Future Research……..……129

References……..132

LIST OF TABLES

Tables **Page Number**

Table 1. Type of Place Where Drugs Were Purchased (Open-Air Drug Market versus Closed-Air Drug Market) For Marijuana, Crack Cocaine, Powder Cocaine, Heroin, and Methamphetamine……..4

Table 2. Cities with Predominately Open-Air Drug Markets For Marijuana, Crack Cocaine, Powder Cocaine, Heroin, and Methamphetamine……..5

Table 3. Cities with Predominately Closed-Air Drug Markets For Marijuana, Crack Cocaine, Powder Cocaine, Heroin, and Methamphetamine……..……6

Table 4. Cities with an Even Distribution of Open-Air and Closed-Air Drug Markets For Marijuana, Crack Cocaine, Powder Cocaine, Heroin, and Methamphetamine……..7

Table 5. ADAM 2002-2003 Total Males and Total Males Who Reside in City of Arrest…….……..59

Table 6. ADAM Cities Included in Final Analysis…….61

Table 7. Types of Locations of Where Drugs Were Purchased……..64

Table 8. Community Disadvantage Scale Items……...……..68

Table 9. Descriptive Statistics for Dependent Variables: 2002-2003 Drug Market Date for 25 Urban Communities……..76

Table 10. Descriptive Statistics for Continuous and Dichotomous Independent Variables……..77

Table 11. Independent Variable Correlation on Continuous and Dichotomous Variables…….....79

Table 12. Bivariate Logistic Regressions for Marijuana, Crack Cocaine, Powder Cocaine, Heroin, and Methamphetamine Closed-Air Drug Markets…….88

Table 13. Coefficients and Odds Ratios for Logistic Regression of Marijuana Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage……96

Table 14. Coefficients and Odds Ratios for Logistic Regression of Crack Cocaine Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage……..101

Table 15. Coefficients and Odds Ratios for Logistic Regression of Powder Cocaine Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage……..105

Table 16. Coefficients and Odds Ratios for Logistic Regression of Heroin Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage……..109

Table 17. Coefficients and Odds Ratios for Logistic Regression of Methamphetamine Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage……..112

ABSTRACT

The following research examines why drug users are less likely to purchase their drugs from closed-air drug markets. This research uses a key principle from routine activities theory to further examine closed-air drug market activity. I use both structural and individual level variables to address issues of guardianship and criminality in order to explore what makes drug users less likely to purchase their drugs indoors. The closed-air drug markets that are examined in this research are marijuana, crack cocaine, powder cocaine, heroin and methamphetamine. I incorporate public access data from the U.S. Census Bureau with public access data from the National Institute of Justice's Arrestee Drug Abuse Monitoring (ADAM) program to conduct this analysis. In this research, I find that guardianship is affected by levels of poverty, education, unemployment, female headed households and issues of race and gender. I also find that levels of criminality are affected by race, education, unemployment, current and past arrest record, homelessness, and drug dependency. These findings demonstrate how decreased levels of guardianship and increased levels of criminality make drug users less likely to purchase their drugs from closed-air drug markets.

Chapter I

Introduction

The goal of this study is to understand what determines the exact location of an illicit drug purchase. Specifically, this research examines how certain ecological variables tied to community disadvantage and individual-level predictors of criminality influence *where* individuals go to purchase illegal drugs. A tremendous amount of research regarding illegal drugs has focused on the *behaviors* of drug users, either during or just after the actual ingestion of the substance. To date, little research has been done to study the factors that might determine the decision of where drugs are actually purchased.

Contrary to most of the research conducted on "drug markets," I distinguish between two different types of drug markets in the United States. The first type of drug market is what I call an "open-air" drug market. Such "public" drug markets are located in outdoor areas such as city streets and public parks. It is these drug markets that have been the focus of almost all previous drug market research. The second type of drug market, however, is what I refer to as a "closed-air" drug market. These "private" drug markets are located behind closed doors, inside houses and apartments.

In this comparison of these two different types of markets, I explore the theoretical relationship between various ecological and personal variables and drug market activity. I also demonstrate the importance of future examinations regarding the differences between open-air and closed-air drug markets.

Drug Markets

What constitutes a drug market? Researchers generally acknowledge that drug markets are physical locations where illicit drugs are most often bought and sold. Drug markets are physical places that typically are located in communities and neighborhoods throughout the United States (Fagan, 1989).

There are four deficiencies in past drug market research. First, all previous drug market research takes place in large, densely populated, urban communities such as Los Angeles, Chicago, New York City and Detroit. While it is true that these large cities are vitally important to understanding drugs in America, research findings that are limited to such cities fail to generate a complete understanding of drug markets – since drug market experiences are likely to vary by city size and composition. Thus, it is important to also consider an examination of drug markets in smaller, less populated cities such as Oklahoma City, Oklahoma and Omaha, Nebraska.

Second, prior research on drug markets focuses either on the relationship between drug market activity and violence or on the individual lifestyles of those associated with drug market activity. Nothing in the literature examines how ecological and individual variables affect where people go to purchase drugs. This research study makes an important contribution to the literature by assessing how community disadvantage and individual criminality might influence where people go to purchase drugs.

The third deficiency in the literature concerns the drug policies of local, state and federal law enforcement agencies. The targeting of public, open-air drug markets

is the model that police agencies follow when designing illegal drug prevention policies (Weisburd and Green, 1995). The problem is that not all community-level drug markets are open-air markets. There are many communities throughout the United States in which drug markets predominately are private, closed-air markets. This finding should call for a closer examination of local, state and federal drug policies. For example, do local police departments know if the majority of drug sales take place in open-air or closed-air markets? Based on the lack of scholarly attention given to closed-air drug markets, one could assume that most policing is based on the presumption that drug transactions most often take place in open-air markets.

Finally, there is a void in the research concerning the different types of drug markets throughout the United States. Past drug market research focuses predominantly on street level, open-air drug dealing within a major urban community. There is a paucity of research on alternative drug market locations (e.g., "closed-air" drug markets). This research study specifically assesses this distinction between open-air and closed-air drug markets.

Tables 1-4 represent data collected from the National Institute of Justice (NIJ) Arrestee Drug Abuse Monitoring Program (ADAM) during 2002 and 2003. Table 1 displays the 25 cities that are examined throughout this study. While the original ADAM data contained 35 cities, ten cities failed to meet certain reliability standards and were thus dropped from this study. I provide a full explanation of the criteria used to determine data reliability in Chapter Five. Table 1 shows the variation in type of drug markets that exist throughout the United States.

Table 1

Type of Place Where Drugs Were Purchased (Open-Air Drug Market versus Closed-Air Drug Market)
For Marijuana, Crack Cocaine, Powder Cocaine, Heroin and Methamphetamine

City	Marijuana Open	Marijuana Closed	N	Crack Cocaine Open	Crack Cocaine Closed	N	Powder Cocaine Open	Powder Cocaine Closed	N	Heroin Open	Heroin Closed	N	Meth Open	Meth Closed	N
Albuquerque	41.1%	58.9%	146	52.0%	48.0%	102	31.6%	68.4%	57	51.7%	48.3%	60	31.2%	68.8%	32
Anchorage	42.6%	57.4%	148	50.8%	49.2%	63	50.0%	50.0%	46	80.0%	20.0%	5	0.0%	100.0%	3
Atlanta	47.8%	52.2%	268	57.8%	42.2%	192	44.8%	55.2%	67	83.3%	16.7%	12	66.7%	33.3%	9
Birmingham	54.1%	45.9%	133	49.3%	50.7%	73	43.6%	56.4%	39	66.7%	33.3%	9	20.0%	80.0%	5
Charlotte	56.4%	43.6%	266	50.8%	49.2%	118	47.5%	52.5%	59	54.5%	45.5%	11	50.0%	50.0%	2
Chicago	79.9%	20.1%	613	81.6%	18.4%	479	73.5%	26.5%	102	82.9%	17.1%	385	20.0%	80.0%	5
Cleveland	71.3%	28.7%	537	77.9%	22.1%	312	55.8%	44.2%	52	64.3%	35.7%	56	33.3%	66.7%	3
Dallas	33.9%	66.1%	289	37.0%	63.0%	138	43.0%	57.0%	79	51.5%	48.5%	33	28.0%	72.0%	25
Denver	58.3%	41.7%	192	70.5%	29.5%	112	60.8%	39.2%	74	86.1%	13.9%	36	47.1%	52.9%	17
Des Moines	29.7%	70.3%	148	41.9%	58.1%	31	41.2%	58.8%	17	50.0%	50.0%	8	13.8%	86.2%	87
Indianapolis	30.5%	69.5%	243	46.2%	53.8%	156	38.1%	61.9%	63	36.8%	63.2%	19	0.0%	100.0%	13
Las Vegas	40.3%	59.7%	231	59.6%	40.4%	109	56.1%	43.9%	57	75.6%	24.4%	41	29.2%	70.8%	171
Minneapolis	67.0%	33.0%	351	61.6%	38.4%	151	35.6%	64.4%	45	59.4%	40.6%	32	13.6%	86.4%	22
New Orleans	84.0%	16.0%	306	82.2%	17.8%	157	77.3%	22.7%	66	82.4%	17.6%	102	N/A	N/A	N/A
New York City	83.9%	16.1%	373	90.1%	9.9%	161	77.0%	23.0%	100	83.2 %	16.8%	119	66.7%	33.3%	6
Oklahoma City	35.1%	64.9%	231	46.2%	53.8%	80	29.5%	70.5%	44	80.0%	20.0%	5	12.5%	87.5%	56
Omaha	51.3%	48.7%	234	53.2%	46.8%	77	39.1%	60.9%	23	0.0%	100.0%	1	24.4%	75.6%	78
Philadelphia	79.6%	20.4%	319	77.9%	22.1%	163	76.7%	23.3%	86	83.9%	16.1%	93	50.0%	50.0%	4
Portland	45.3%	54.7%	128	66.2%	33.8%	71	66.7%	33.3%	48	77.6%	22.4%	49	36.4%	63.6%	88
Sacramento	49.5%	50.5%	210	51.9%	48.1%	79	58.8%	41.2%	17	42.4%	57.6%	33	32.4%	67.6%	142
Salt Lake City	34.1%	65.9%	129	46.5%	53.5%	43	68.3%	31.7%	60	70.2%	29.8%	47	25.7%	74.3%	109
San Antonio	26.4%	73.6%	227	32.3%	67.7%	31	35.4%	64.6%	96	40.0%	60.0%	55	41.2%	58.3%	12
Spokane	33.5%	66.5%	188	44.1%	55.9%	68	30.0%	70.0%	40	23.3%	76.7%	30	17.6%	82.4%	119
Tucson	34.9%	65.1%	169	47.6%	52.4%	105	47.0%	53.0%	117	77.8%	22.2%	27	18.5%	81.5%	54
Tulsa	35.0%	65.0%	197	44.7%	55.3%	76	28.6%	71.4%	28	25.0%	75.0%	4	29.0%	71.0%	62
Total			6,276			3,147			1,482			1,272			1,124

Table 2

Cities with Predominately Open-Air Drug Markets
For Marijuana, Crack Cocaine, Powder Cocaine, Heroin and Methamphetamine

City	Marijuana Open	Marijuana Closed	N	Crack Cocaine Open	Crack Cocaine Closed	N	Powder Cocaine Open	Powder Cocaine Closed	N	Heroin Open	Heroin Closed	N	Meth Open	Meth Closed	N
Chicago	79.9%	20.1%	613	81.6%	18.4%	479	73.5%	26.5%	102	82.9%	17.1%	385	20.0%	80.0%	5
Cleveland	71.3%	28.7%	537	77.9%	22.1%	312	55.8%	44.2%	52	64.3%	35.7%	56	33.3%	66.7%	3
Denver	58.3%	41.7%	192	70.5%	29.5%	112	60.8%	39.2%	74	86.1%	13.9%	36	47.1%	52.9%	17
Minneapolis	67.0%	33.0%	351	61.6%	38.4%	151	35.6%	64.4%	45	59.4%	40.6%	32	13.6%	86.4%	22
New Orleans	84.0%	16.0%	306	82.2%	17.8%	157	77.3%	22.7%	66	82.4%	17.6%	102	N/A	N/A	N/A
New York City	83.9%	16.1%	373	90.1%	9.9%	161	77.0%	23.0%	100	83.2 %	16.8%	119	66.7%	33.3%	6
Philadelphia	79.6%	20.4%	319	77.9%	22.1%	163	76.7%	23.3%	86	83.9%	16.1%	93	50.0%	50.0%	4
Portland	45.3%	54.7%	128	66.2%	33.8%	71	66.7%	33.3%	48	77.6%	22.4%	49	36.4%	63.6%	88
Total			2,819			1,606			573			872			145

Table 3

Cities with Predominately Closed-Air Drug Markets
For Marijuana, Crack Cocaine, Powder Cocaine, Heroin and Methamphetamine

City	Marijuana Open	Marijuana Closed	N	Crack Cocaine Open	Crack Cocaine Closed	N	Powder Cocaine Open	Powder Cocaine Closed	N	Heroin Open	Heroin Closed	N	Meth Open	Meth Closed	N
Dallas	33.9%	66.1%	289	37.0%	63.0%	138	43.0%	57.0%	79	51.5%	48.5%	33	28.0%	72.0%	25
Des Moines	29.7%	70.3%	148	41.9%	58.1%	31	41.2%	58.8%	17	50.0%	50.0%	8	13.8%	86.2%	87
Indianapolis	30.5%	69.5%	243	46.2%	53.8%	156	38.1%	61.9%	63	36.8%	63.2%	19	0.0%	100.0%	13
Oklahoma City	35.1%	64.9%	231	46.2%	53.8%	80	29.5%	70.5%	44	80.0%	20.0%	5	12.5%	87.5%	56
Salt Lake City	34.1%	65.9%	129	46.5%	53.5%	43	68.3%	31.7%	60	70.2%	29.8%	47	25.7%	74.3%	109
San Antonio	26.4%	73.6%	227	32.3%	67.7%	31	35.4%	64.6%	96	40.0%	60.0%	55	41.2%	58.3%	12
Spokane	33.5%	66.5%	188	44.1%	55.9%	68	30.0%	70.0%	40	23.3%	76.7%	30	17.6%	82.4%	119
Tucson	34.9%	65.1%	169	47.6%	52.4%	105	47.0%	53.0%	117	77.8%	22.2%	27	18.5%	81.5%	54
Tulsa	35.0%	65.0%	197	44.7%	55.3%	76	28.6%	71.4%	28	25.0%	75.0%	4	29.0%	71.0%	62
Total			1,821			728			544			228			537

Table 4

Cities with an Even Distribution of Open-Air and Closed-Air Drug Markets
For Marijuana, Crack Cocaine, Powder Cocaine, Heroin and Methamphetamine

City	Marijuana Open	Marijuana Closed	N	Crack Cocaine Open	Crack Cocaine Closed	N	Powder Cocaine Open	Powder Cocaine Closed	N	Heroin Open	Heroin Closed	N	Meth Open	Meth Closed	N
Albuquerque	41.1%	58.9%	146	52.0%	48.0%	102	31.6%	68.4%	57	51.7%	48.3%	60	31.2%	68.8%	32
Anchorage	42.6%	57.4%	148	50.8%	49.2%	63	50.0%	50.0%	46	80.0%	20.0%	5	0.0%	100.0%	3
Atlanta	47.8%	52.2%	268	57.8%	42.2%	192	44.8%	55.2%	67	83.3%	16.7%	12	66.7%	33.3%	9
Birmingham	54.1%	45.9%	133	49.3%	50.7%	73	43.6%	56.4%	39	66.7%	33.3%	9	20.0%	80.0%	5
Charlotte	56.4%	43.6%	266	50.8%	49.2%	118	47.5%	52.5%	59	54.5%	45.5%	11	50.0%	50.0%	2
Las Vegas	40.3%	59.7%	231	59.6%	40.4%	109	56.1%	43.9%	57	75.6%	24.4%	41	29.2%	70.8%	171
Omaha	51.3%	48.7%	234	53.2%	46.8%	77	39.1%	60.9%	23	0.0%	100.0%	1	24.4%	75.6%	78
Sacramento	49.5%	50.5%	210	51.9%	48.1%	79	58.8%	41.2%	17	42.4%	57.6%	33	32.4%	67.6%	142
Total			1,636			813			365			172			442

In Table 1, the percentages represent individuals who purchased the illegal drugs marijuana, crack or powder cocaine, heroin or methamphetamine in either open-air drug markets or closed-air drug markets. The open-air drug market data consists of people who admitted to purchasing drugs in public locations such as street corners, parks, and vacant lots. The closed-air drug market data represents people who admitted to purchasing drugs in private locations such as houses, apartments, condominiums, and places of business.

The data suggest that there is much variation between cities in the predominance of open- vs closed-air drug markets. The primary differences between open- and closed-air cities seem to be urbanization and population density. Tables 2 and 3 consist of data partitioned by cities that have mostly one type of drug market or the other. The cities that have predominately open-air drug markets tend to be more urban and densely populated than those cities with predominately closed-air drug markets. It appears that cities that are larger and more densely populated (e.g., New York, Philadelphia, and Chicago) possess attributes that make open-air drug markets more likely. The opposite holds true for cities with predominately closed-air drug markets. These cities can be characterized as having relatively lower levels of population density and lower levels of community disadvantage (e.g., Dallas and Oklahoma City). Finally, the cities listed in Table 4 reflect a fairly even split of open-air drug markets and closed-air drug markets.

Thus, it appears that something about the composition of these cities affects how drug markets have developed over time. The goal of this research is to identify

what factors may have played a role in this development. The focus of the research is on the impact of community disadvantage (and the inherent lack of guardianship) on the development of an open- or closed-air drug market. The thesis is that people who live in cities with high levels of community disadvantage are more likely to purchase drugs in open-air drug markets because the opportunity for police vigilance is decreased in these settings. When the potential for "guardianship" by the police is high, drug markets are more likely to move into a more private setting.

Overview

This study centers on the idea that drugs are bought and sold in both open-air and closed-air drug markets. Past research on drug markets states that drug dealers set up markets in familiar open-air areas deep inside urban communities (Mieczkowski, 1986; Hagedorn, 1994). A drug user must go to a physical location in order to purchase drugs. There is no reason, however, to expect that a person can only go deep inside an urban area to purchase drugs. Tables 1 through 4 demonstrate that people have options with respect to where they purchase drugs.

The decision of where to obtain drugs depends on two main factors: detection avoidance versus convenience. All things being equal, it should be less dangerous for a person to purchase drugs in a closed-air market. There is less risk of violence and less risk of being detected by the police when choosing to purchase drugs indoors. On the other hand, it is probably more convenient for a drug user to purchase drugs from an outdoor drug market since it is easier to identify a person selling drugs on the street when compared to someone selling drugs indoors.

When comparing detection avoidance and convenience, drugs users probably depend more on avoiding detection when determining where to purchase drugs. The goal of drug users is to safely obtain drugs so that they can enjoy the drugs. The odds of police detection are related to levels of community guardianship. If levels of community guardianship are high, then the odds of police detection are high. If this is true, then drug users will be more likely to buy drugs indoors regardless of how inconvenient this is. If guardianship is low, then the odds of police detection is low and drug users will be less likely to purchase drug indoors because of the reduced chance of being arrested.

While it appears to make logical sense for a person to purchase drugs from a closed-air drug market, why do some people choose to not purchase drugs from closed-air markets? Is there something unique about the city a person lives in? Is there something specific about the individual? The purpose of this research is to begin to answer these questions. Distinguishing between closed-air and open-air drug markets is an important contribution to the literature because closed-air drug markets have largely been ignored throughout the literature.

I use routine activities theory and social disorganization theory to explain why some drug users are less likely to purchase drugs from closed-air markets while others are more likely to do so. The key assumption of routine activities theory focuses on the concept of "guardianship." Since guardianship is linked to detection avoidance. Thus, lower levels of guardianship should result in lower likelihood of detection. Changes in the level of guardianship should affect where people purchase

drugs. The key effect of social disorganization is on the level of guardianship. Higher levels of community disadvantage will lead to lower levels of guardianship. Thus, drug users are less likely to purchase drugs indoors in conditions of high community disadvantage.

In Chapter Two of this study, I examine the relevant literature concerning drug markets. Even though past research on drug markets is very different from my research, it is important to place my study in context. I focus on research that examines the relationship between drug markets and violent behavior, along with research that focuses on the behaviors of those associated with drug market activity. Of specific interest, of course, is the impact of violence on the drug markets. If a drug market is a dangerous place, it may affect the decision of the drug purchaser on where they go to purchase drugs.

In Chapter Three, I discuss the theory that is being tested in this study: routine activities theory. I discuss the historical overview behind the development of routine activities theory and its past empirical tests. In Chapter Four, I outline how I use routine activities theory to develop my research questions and provide a list of my hypotheses. In Chapter Five, I present the data, variables, and collection methods that I created and used on this research project. I speak to the unique components of the ADAM data, as well as the use of various U.S. Census data. I also discuss different methods that I used in order to complete and finalize my current data set. Chapter Six contains the results from the analysis and Chapter Seven consists of a final discussion of my findings and the conclusion.

Chapter II

Drug Market Literature Review

Before discussing the relevant drug market literature, it is important to place drug market literature in the context of basic economic markets. Following a very brief summary of the sociological basis for understanding a market economy, I discuss how drug markets operate in the United States.

Drugs and the Market Economy

The "market" is and economic system where the distribution of tangible items is conducted through a free market system. It is an economic structure with very few government restrictions (government control is held to a minimum). In this type of system, virtually all of the decisions of how an economic market will operate are made by the consumers and producers of goods and services. A free market system is synonymous with a capitalistic economy, while a controlled market system is more similar to a socialistic economy (Przeworski, 1991; Gorman, 2003).

In a free market system, there is an important relationship between the producers of goods and services, and the consumers purchasing such goods and services. This relationship is often referred to as a "bottom up" relationship, in which decisions regarding the market economy are dictated by the consumption patterns of consumers. Consumers pass along valuable information to the producers in the form of what items they are willing to purchase and what prices they are willing to pay, along with information that affects the quantity of goods and services. This information is then translated into what items are sold to the public, how many items

are sold, and the prices that are attached to certain items (Przeworski, 1991; Gorman, 2003).

So how does a free market economy relate to a drug market economy? A drug market economy, while dealing with the distribution and purchase of illegal substances, is very similar to a market economy that controls legitimate goods and services. In a drug market, drug users set the standard. Drug users determine what drugs are sold and how much they cost (Henry, 1977; Schneider, 2005). For example, if a particular drug suddenly appears on the market that is cheaper but offers the same effect, drug users will turn to the use of this new drug. This happened in the early 1980s with the popularity shift from powder cocaine to crack cocaine. During this time, powder cocaine had become less popular and cocaine users began to experiment with other suitable alternatives, one of which was crack cocaine. As crack cocaine became more popular, drug dealers were forced to make a change in dealing philosophies (Sutton, 1998). Therefore, drug users set the economic market by looking for an alternative to powder cocaine.

Illegal drug markets are very similar to free competitive markets. A free economic market is only regulated the consumers and producers of goods and services. When there are disputes, it is up to the consumers and producers to work out an agreeable solution. Consumers and producers also determine the relationship between supply and demand. If demand is high, then there will be supply to match demand (Przeworski, 1991; Gorman, 2003).

The rules of exchange in legitimate economic markets are very similar to those found in illegal drug markets. In an illegal drug market there is no formal regulation. Regulation comes from the relationship between drug suppliers and drug buyers. The only time formal regulation occurs is when the police disrupt the flow of goods and services. When it comes to the daily operation of a drug market, however, it is up to the suppliers and buyers to determine the guidelines that are to be followed. Drug users and drug dealers use a unique form of communication to establish how the market will operate. Similar to economic markets, while each drug market is different, there are certain rules of exchange that apply throughout all drug markets. For example, while the market location might be different in each city, each drug market requires a transaction of money or goods and/or services before the drug transaction is considered complete.

In an illegal drug market, supply and demand are determined by the consumer. If drug users are demanding more of a certain product, then it is up to the suppliers to provide the product or risk losing customers. This is identical to how the laws of supply and demand work in legitimate economic markets. In an illegal market, prices for goods and services are set by competition. If competition for goods and services is stable then prices remain stable. If competition for goods and services fluctuates, then prices will vary. Once again, this is similar to how legitimate economic markets operate (Przeworski, 1991; Cork, 1999; Gorman, 2003).

Drug Market Research

Previous drug market studies have examined drug markets from three different perspectives. First, drug market research is often presented through empirical evidence combining drug markets with some type of violent criminal behavior. Second, drug market research focuses on the behaviors of those associated with drug market activity. One example of this type of research examines the variety of ways in which drug users and drug dealers navigate both participation within drug markets, and how they ultimately are affected by time spent participating in drug markets. This research examines the relationships between drug user and drug dealer. These studies also explore the long–term, life-course effects of drug market participation, such as incarceration, increased drug use, addiction and the consequences associated with each. The final drug market literature describes illegal drug distribution.

1. Drug Markets and Violent Behavior

Early research focusing on the relationship between drug markets and violence primarily studied how drug market activity was correlated with rates of homicide. Zahn and Bencivengo (1974) and Monteforte and Spitz (1975) were the first to examine the relation between drug market activity and homicide rates.

In both Philadelphia and Detroit, these authors found a higher rate of homicide among people who were labeled "serious drug addicts." These higher rates of homicide were attributed directly to the dangerous lifestyles of people who were considered serious drug addicts. These authors argued that as drug users became

more addicted to the drugs they were using, they would begin to take more risks in order to secure a much-needed fix. One of these risks involved going to open-air drug markets to purchase drugs (Zahn and Bencivengo, 1974 and Monteforte and Spitz, 1975).

These authors acknowledged that going to an open-air drug market is more dangerous than purchasing drugs indoors. As a drug user became more addicted, they began to take greater risks that inevitability placed them in increased jeopardy. Increases in addiction resulted in increased risk-taking behavior which, in turn, resulted in increased homicide rates (Zahn and Bencivengo, 1974 and Monteforte and Spitz, 1975). People who are highly addicted to a particular drug represent an increase in individual-level criminality which makes them more likely to take certain risks in order to purchase the drug they need. One of these risks involves going to an open-air drug market to purchase drugs. While going to an open-air drug market to purchase drugs may be more dangerous, it provides a more convenient location for someone who is desperately addicted.

In 1985, Goldstein built upon the idea that there was a relationship between drugs and violence. He proposed a more elaborate framework supporting this relationship. This framework is often referred to as the drugs/violence nexus. Goldstein argued that drugs and violence are related in three different ways: psychopharmacological violence, economic-compulsive violence, and systemic violence. Goldstein stated that these three varieties of drug-related violence are tied to differences in substance use, social environment, motivation, and victims.

Psychopharmacological violence implies that all people are affected differently by the drugs they use. For example, while one person might be able to use heroin and display no visible negative behavioral effects, another person might use heroin and become irrational and resort to violent behaviors that might otherwise have remained latent (Goldstein 1985).

Economic-compulsive violence states that certain drug users often will resort to economic-based violent crime as a method of supporting a drug habit. Goldstein argued that these crimes were committed with the intent of generating a quick income. Unfortunately, some of these crimes resulted in homicide.

Systemic violence is the theoretical concept that violent crimes such as homicide occur as a result of the aggressive nature associated with the dynamics involved with drug use and drug distribution (Goldstein, 1985). Goldstein stated that there are certain necessary evils connected to the drug trade, including turf battles over drug territory, the enforcement of drug norms and values, the punishment of informers, and the failure to pay a debt. The enforcement and resolution of these situations can all result in the escalation of homicide.

As previously mentioned, the rise in popularity of crack cocaine appears to have significantly impacted the relationship between drug markets and violence. Much of the significance in this relationship also appears to be tied to an increase in how street gangs have become more actively involved in the operation of drug markets.

Beginning in the early 1980s, crack cocaine became a very popular drug throughout the United States. This increased popularity was most prevalent in urban areas. During this time, crack cocaine became a cheaper substitute for powder cocaine. Crack cocaine is nothing more than powder cocaine mixed with baking soda and cooked into a crystallized rock formation. According to drug users, it takes a smaller quantity of crack cocaine to achieve the same high possible with powder cocaine. This fact, that a smaller quantity of crack cocaine is required to achieve the desired result, was the primary reason for the rise in popularity of crack cocaine. With a smaller amount needed, drug users were able to achieve a desired high at a lower financial cost. While powder cocaine remained fashionable among middle and upper class drug users, crack cocaine became very popular among lower-income drug users (Blumstein, 1995; White and Gorman, 2000).

As crack cocaine became more popular among lower class users, numerous social consequences began to appear within this community. According to the research, one unforeseen consequence of the rise in popularity of crack cocaine was that more people were now able to afford involvement with drugs because of the issues of reduced quantity and reduced cost. This matter of getting involved with drugs meant an increase both in drug users and drug dealers. In turn, as more people became involved with both sides of drug markets, more juveniles became part of this relationship (Brownstein, *et al.* 1999; MacCoun, *et al.* 2003).

The competitive stakes were raised in drug markets throughout the country as more people got involved with both using and dealing crack cocaine. This led to a

drastic increase in drug market related violence. Researchers argued that as more drug users demanded access to crack cocaine, more drug dealers began attempting to distribute this product to consumers. Because of this high demand for crack cocaine, more first-time drug dealers began to initiate business. Researchers believe that during the 1980s, the crack cocaine market became so lucrative that people within the lower classes actually saw the selling of crack cocaine as a way to achieve a higher class status (Cork, 1999).

This increase in crack cocaine popularity created another social problem throughout the United States. With the rise in popularity came a tremendous increase in violence. According to the research, the stakes in crack cocaine drug dealing became so high that individuals were turning to violence as a way of dealing with any unwanted competition. Violence became the main method illegitimate business owners used to deal with rival competitors. Nowhere was this increase in violence more visible and prevalent than in the inner cities. During this time, the United States experienced a record number of homicides and other violent crimes. The rise in crack cocaine use was the origin for the increase in violence. (Blumstein, 1999; Brownstein, *et al*. 1999; Cork, 1999; Riley, 1999; White and Gorman, 2000; MacCoun, et al. 2003).

As crack cocaine maintained popularity, urban areas began to experience increased gang activity. Researchers believe that urban street gangs viewed the crack cocaine market as a way to rise and prosper within the urban community. As the stakes rose in the crack cocaine drug market, more gangs became more actively

involved in dealing drugs. This led to many gangs taking over crack cocaine drug market areas by replacing existing drug dealers who refused ties with local gangs. According to the research, it is not surprising that the form of drug dealer replacement was usually tied to some act of violence, most frequently homicide (Hagedorn, 1994; Cohen, 1998; Pattillo, 1998).

As gangs became more active in the crack cocaine market, urban areas saw a sharp rise in violence. These areas also experienced an increase in weapons and gun-related violence (Hagedorn, 1994; Cohen, 1998; Pattillo, 1998).

The rise in violence that followed the increase of crack cocaine drug use was a result of how valuable these crack cocaine drug markets were to the people involved (Blumstein, 1999; Brownstein, *et al.* 1999; Cork, 1999; Riley, 1999; White and Gorman, 2000; MacCoun, *et al.* 2003). With this increased violence came increased police presence.

2. Behaviors of Those Involved with Drug Markets

The behaviors of those individuals involved with drug markets can also affect where people go to purchase drugs. More highly organized drug markets may result in more safety for those looking to purchase drugs. With more safety comes less risk of police detection, and I would argue that drug users would be more likely to purchase drugs outdoors due to convenience. It is important to demonstrate how the behaviors of drug market participants determine where drug users purchase drugs.

Communication patterns of drug dealers, drug users and the police are common areas of study for drug market researchers. Research conducted by Carey

(1968) and Atkyns and Hanneman (1974) offer two of the earliest examples of the various communication methods used by drug dealers. Carey (1968) discussed how local open-air drug dealers use runners and couriers to relay and deliver messages between various drug dealers and drug users. The authors each described how drug dealers use runners and couriers to disseminate information regarding such things as current supply prices, areas under police surveillance and changes in market location.

Research conducted by Weisburd and Green (1995) focused on the various methods used by Jersey City police to patrol local drug market hot spots. The authors defined hot spots as areas where high numbers of drug transactions and drug arrests take place. Weisburd and Green (1995) discussed the role that informants and undercover narcotics officers play in controlling local drug markets. One of the interesting arguments made addressed the belief of many law enforcement officials that drug dealers use a very sophisticated system of communication in an attempt to always stay one step ahead of police detection.

This argument makes sense when comparing drug markets to other legitimate, mainstream businesses. All businesses attempt to control things that are bad for business. For example, shoplifting is considered bad for business; therefore, department stores employ many different methods in an attempt to control shoplifting. In terms of drug markets, the police are bad for business; thus it is not surprising that drug dealers use a variety of communication methods such as cellular phones, pagers, secret codes, and hand signals in order to elude police detection (Carey, 1968; Atkyns and Hanneman, 1974; Weisburd and Green, 1995).

Research by Natarajan, Clarke and Belanger (1996) offered another view of the many communication dynamics that take place within local drug markets. This research involved an examination of the role that pay phones play within the daily routine of drug dealing. They provided a detailed description of how inner city drug markets often appear to be located in areas that have a large supply of working pay phones. The authors argued that pay phones act as a tool for street-level drug dealers, and contend that if local authorities want to help reduce the presence of local drug markets they could start by limiting the number of available pay phones within the inner city.

Unfortunately, the authors dismissed how important cellular phones are to both drug dealers and drug users. The authors only addressed the issue of cellular phones by acknowledging that they are too expensive for most inner city drug dealers to use and do not offer a legitimate alternative to pay phones. While this may have been the case in 1996, things have likely changed in today's cellular phone market. The removal of pay phones from the inner city would disrupt the way in which contact is made between dealer and user. If anything, the removal of inner city pay phones would simply shift communication techniques completely from pay phones to cellular phones. Unfortunately, there is no research that examines how the removal of pay phones can change the dynamic of a public open-air drug market.

Detection and avoidance within drug markets is another form of research on drug markets. Ball (1965) was one of the first researchers to discuss how behavioral patterns of both drug users and drug dealers affect the likelihood of police detection.

The author outlined various observable patterns of drug dealers and drug users that can actually increase the likelihood of police detection. Some of the basic ideas outlined have to do with people who look "out of place" in certain parts of town. For example, one sign of drug activity might be a high number of white individuals milling about in a predominately African American neighborhood. The author also argued that by paying attention to the way people are dressed and to the type of automobile driven, one can easily tell the difference between the people who belong and do not belong in a certain area. It is argued that paying attention to these issues can increase the likelihood of drug market detection.

Dorn and South (1990) provided a detailed explanation of the various techniques and procedures that law enforcement officials employ to eliminate drug markets within local communities. Dorn and South (1990) discussed the various techniques of community watch programs, as well as other community outreach programs. They also spoke to the range of successes these programs have had in controlling drug market activity in communities such as Newark, New Jersey, Boston, Massachusetts, and Washington, D.C.

Research conducted by Buerger (1992) and Johnson and Natarajan (1995) focuses on the methods employed by local drug dealers aimed at detection avoidance. Many of these methods are communication techniques similar to those mentioned earlier. These authors discussed how drug dealers use cellular phones and pagers to keep track of where the police are located. The authors acknowledged how certain drug dealers use young, underage juveniles to move and distribute large amounts of

the drug supply. It is argued that drug dealers use juveniles because they are not always subject to the same laws as adults.

Research on the lifestyles of drug dealers and drug users is another common area in the drug market literature. Within this genre, the primary research subjects are street-level, inner city drug dealers who most often are young minority males. Fagan (1992) provides a detailed description of the economic lifestyles of drug dealers in New York City, New York. Fagan attempted to explain many of the issues behind a person's decision to become a drug dealer. Fagan argued that poverty and economic distress are directly related to a person's decision to become a drug dealer.

Research conducted by Hamid (1992) described the positions that crack cocaine users in New York City hold within local drug markets. Hamid described an interesting relationship that six inner city crack users had with both local communities and local drug markets. Hamid's research provided a detailed story as to how smoking crack cocaine had affected each of these individuals' lives. Hamid managed to demonstrate how each person had been adversely affected in some fashion due to crack cocaine use. He also provided examples of the varying participant roles that each of these individuals had within local drug markets. For example, Hamid explained how certain individuals manage only to maintain the role of user within a drug market. Most are able to achieve this role by providing some source of legitimate income that allows these people to be strictly drug users. Hamid also described how other individuals continually vacillate between the roles of drug user and drug dealer. Hamid argued that when people repeatedly transition between the

role of drug user and drug dealer, it usually is to supply one's own drug habit and not due to any entrepreneurial endeavor.

3. Drug Market Distribution

Research conducted by Mieczkowski (1990) and Power, *et a*l. (1995) focused on how crack cocaine is distributed in open-air drug markets. The authors discovered similar issues when examining the distribution practices of crack cocaine through open-air drug markets. In open-air crack cocaine drug markets, there appeared to be similar usage of a sophisticated network of workers and runners whose sole purpose is to ensure the safe delivery and distribution of crack cocaine. These workers are employed by local drug dealers and are often the only connection between dealer and user (Mieczkowski, 1990; Power, *et al*. 1995).

A study conducted by VanNostrand and Tewksbury (1999) demonstrated the motives and mechanics of operating a local open-air drug market. This research was based on a series of interviews conducted with known drug dealers in an attempt to better understand the reasons why people get involved in an illegal drug enterprise and how certain drug markets operate and function.

VanNostrand and Tewksbury (1999) argued that financial motivation is the primary reason that most people get involved with the operations side of a drug market. They showed that a small number of people who sell drugs only to offset a drug habit. They noted that the number of sellers who also are users changes over time as dealers become more entrenched as providers. The authors stated that the

longer a person maintains his or her role as a drug dealer, the greater are the odds that he or she will eventually become a user (VanNostrand and Tewksbury, 1999).

Summary

The aforementioned literature is used to demonstrate the various ways in which open-air drugs markets operate. If it is true that a well-organized drug market can reduce the likelihood of a drug user being detected by the police, then a well-organized drug market would help to decrease levels of guardianship and in turn decrease the likelihood of drug users purchasing drugs from closed-air drug markets.

In the next chapter, I introduce the theory I use to guide this research. I employ the concepts of routine activities theory to help predict where drug users go to purchase drugs. More specifically, I focus on the assumption from routine activities theory that states that in order for a crime to occur there must be a lack of guardianship. I believe that a lack of guardianship is tied to decreased odds of police detection and a decrease in the likelihood of drug users purchasing drugs from closed-air drug markets.

Chapter III

Routine Activities Theory

While previous research on drug markets does not include a theoretical test on what determines where drug users go to purchase drugs, it still is important to place the setting of drug markets into a theoretical context. Due to the unique setting that drug markets offer, routine activities theory provides the best opportunity to increase our knowledge about the drug market setting. In this section, I first describe the history and theoretical assumptions of routine activities theory in order to demonstrate how it can be applied to this examination of drug markets. Next, I provide a review of the studies that have been conducted using routine activities theory. I close this section with a short summary of how I use the theoretical foundations of routine activities theory to develop my research questions that will be addressed throughout this paper.

History and Assumptions of Routine Activities Theory

Cohen and Felson first proposed a concept of routine activities theory in 1979. They were interested in explaining the ongoing changes in crime rates that were occurring throughout the United States. Using crime statistics dating back to 1960, they demonstrated how rates of both violent and property crime had increased throughout the country. Through a routine activities approach, these authors provided a detailed outline of how social changes in society are directly correlated with changing and increasing crime rates.

They stated that changes in everyday, personal routines can be used to explain changes in crime rates. For example, the years between 1960 and 1980 were filled with many social and economic changes. These changes forced individuals in society to alter their normal routines. Changes in these routines were what Cohen and Felson believed accounted for the changes in crime rates.

One of the changes that took place during this time occurred within the occupational sector of society. Beginning in the early 1960s, more women began working outside of the home. Furthermore, as a result of urban expansion and the development of suburban living, men began commuting between work and home at much further distances than before (Cohen and Felson, 1979). Both of these occurrences led to longer periods of time where nobody was present in the home. The less time one spends in at home, the less time that home is guarded and the possessions within the home protected. This lack of guardianship creates a better opportunity for a potential offender looking for a home to burglarize. Cohen and Felson argued that changes in personal routine that have led to individuals spending more time away from home offer an explanation of the increase in home-related property crimes.

While the majority of criminological theories focus on offender characteristics, the routine activities theory presented by Cohen and Felson primarily described the characteristics of the criminal event. In other words, these authors are not as concerned about why a particular person commits a criminal act as they are

about the variables that affect the relationship between time and space that leads to a crime occurring in a specific location.

Cohen and Felson (1979) described three primary conditions necessary for any criminal event to occur. First, there must be a motivated offender willing to commit a criminal act. Next, there must be a supply of suitable targets available in order for that motivated offender to behave in a criminal manner. Finally, there must be a lack of capable guardians in order for a crime to occur. These authors believed that the convergence of these three conditions accounts for why crime occurs (Felson, 2002). I focus on the conditions of guardianship for this research.

Supporters of the routine activities approach state there is never a shortage of motivated offenders within society. It is widely accepted that motivation is closely tied to opportunity, and that if the perfect opportunity is presented, virtually all people are potentially capable of being criminal (Cohen and Felson, 1979; Felson, 1987; Felson, 2002). Thus, in the right situation, motivation is simply a given.

Research using the concepts from the routine activities perspective typically focuses either on the relationship between suitable targets or on guardianship. A primary concern has been what makes either a person or a physical location a more suitable target for a criminal occurrence. Studies have examined a number of variables that appear to address target suitability. For example, does walking alone at night in a deserted area make someone a more suitable target?

Target suitability is a very flexible concept within this theoretical approach. A target does not necessarily have to be a person; it can be applied to a physical

location. For example, a house with unlocked doors is considered a more suitable target compared to a home with locked doors.

Level of guardianship is another factor often mentioned in the research conducted on routine activities theory. Guardianship manifests itself in the form of either formal or informal supervision. Formal guardianship can come from mechanisms such as the police or surveillance cameras, whereas informal guardianship can come from simply having two people walking together through a park.

Informal guardianship sometimes can result from an increase in the number of people placed into a particular social situation. However, there are other instances where adding more people to a situation actually decreases guardianship. For example, some college campuses have created programs that offer informal security escorts to students who do not want to walk across campus alone. These escorts are usually volunteers who are not affiliated with any police department. Most of these programs are designed to provide campus escorts after dark and are provided for those students who do not want to walk across campus alone at night. The idea behind these programs is that two people walking together decreases target suitability and increases guardianship of a potential victim.

Conversely, adding more people to a situation does not always reduce target suitability and increase guardianship. The experience of Mardi Gras is a situation where adding more people to a social situation does not make the situation safer. I argue that by placing thousands of people in a tightly confined area such as Bourbon

Street during Mardi Gras, you have actually increased target suitability and decreased guardianship. Thus, whenever one wishes to discuss the effect that guardianship has on a particular criminal situation they must always account for the particular differences associated with each social situation. In other words, simply adding people to a certain situation is not always the best way to increase levels of guardianship.

Empirical Tests of Routine Activities Theory

Since 1979, routine activities theory has been closely linked to a wide variety of victimization and offender studies. The theory is most commonly used to explain changes in victimization rates.

1. Victimization and Offender Studies

The routine activities approach applies to the individual levels of personal behavior. The theory demonstrates how the daily routine patterns of individuals within society affect issues of criminality. An important issue to address when attempting to explain individual levels of offending and victimization concerns the behavioral patterns of both the victim and offender (Felson, 1987; Felson, 2002). The basic assumptions of this theory are that in order for a criminal event to occur, such as being the victim of a crime, there must be a motivated offender, a suitable target, and a lack of guardianship.

It often is assumed there is an endless supply of motivated offenders. Therefore, studies that examine the relationship between routine activities and issues

of offending and victimization primarily focus on the factors that create a more suitable target and how certain variables affect levels of guardianship. In other words, studies in this area address the issues of how personal and social factors affect target suitability of potential victims, as well as how certain personal and social factors positively or negatively affect levels of guardianship.

Messner and Blau (1987) examined the relationship between leisure activities and rates of serious crime. They found that people typically participate in two different types of leisure activities, either those that take place within the home or those that take place outside the home. The authors attempted to build on the assumptions of the routine activities perspective by examining how leisure activities can affect levels of guardianship and target suitability.

This was a macro-level study that created structural-level leisure activities and compared these leisure activities to crime rates within 124 of the largest metropolitan areas within the United States. The primary independent variables in this study were leisure activities that take place within the home and leisure activities that take place outside the home. The authors believed that the areas where people spend more time participating in leisure activities outside of the home will have higher rates of serious crime (Messner and Blau, 1987). Messner and Blau argued that outside of sleep and work, the most popular activity for people is watching television. Thus, they created a measurement for the average time spent watching television by people within a particular area. This measurement represented leisure activity within the home. The measurement for leisure activities that take place outside the home came from a

combination of many different indicators. This variable was created by totaling the number of available sports and entertainment establishments within a particular area. The authors argued that the more sports and entertainment establishments available to people within a particular community, the more likely these people will spend time outside the home participating in these leisure activities (Messner and Blau, 1987).

The authors found higher rates of homicide, rape, robbery, assault, burglary, larceny, and auto theft in those areas where people spent more time participating in leisure activities outside of the home. It was hypothesized that when people spend more time outside the home they create more suitable targets for both themselves and for their homes (Messner and Blau, 1987).

Miethe and McDowall (1993) attempted to determine how a person's potential risk of becoming the victim of a crime is affected by his or her lifestyle and the neighborhood characteristics in which he or she lives. These authors interviewed over 5000 Seattle residents to determine how micro-level lifestyle indicators and macro-level neighborhood variables affect the risk of personal victimization (Miethe and McDowall, 1993).

In conducting phone interviews with Seattle residents, the authors determined if an individual had experienced either a violent crime or a burglary near home within the last two years. The authors then incorporated both individual and structural-level data into the analysis. The independent variables analyzed included how often the home was unoccupied, number of dangerous activities, income, if individuals travel with valuable possessions, possession of expensive goods, number of safety

precautions, if they live alone, population density, ethnic heterogeneity, and socioeconomic status (Miethe and McDowall, 1993).

The authors discovered a higher likelihood of individuals being the victim of a burglary in the areas with a higher level of socioeconomic status. In the wealthier areas of Seattle, Washington, people spend more time outside of the home and travel with more valuable possessions, thus making themselves more suitable targets to motivated offenders. These variables had no effect on burglary risks of those individuals living in the lower class areas of Seattle. Furthermore, there were no differences among these variables for violent crimes across neighborhoods (Miethe and McDowall, 1993).

Building off of the work of Miethe and McDowall (1993), Rountree and Land (1996) examined the relationship between burglary victimization, perceived risk, and routine activities theory. The authors wanted to determine if increased crime rates within neighborhoods, coupled with neighborhood disorganization, increased levels of perceived risk (Rountree and Land, 1996).

The authors used Census data to create measures of neighborhood crime rates and levels of neighborhood disorganization. In examining indicators of age, race, gender, density and income the authors determined that levels of disorganization, which in turn affect levels of daily routine patterns within a neighborhood, ultimately affects individual levels of perceived risk (Rountree and Land, 1996).

In 1998, Mustaine and Tewksbury studied the relationship between larceny theft victimization and individual levels of routine activities. Mustaine and

Tewksbury (1998) compiled and measured a highly detailed list of personal routine activities and neighborhood dynamics in order to determine if a person's daily routine behaviors placed him or her at greater risk of being the victim of a larceny theft. The authors hypothesized that individuals whose ordinary daily behaviors and place of residence made them more suitable targets would be more likely to have been the victim of a larceny theft (Mustaine and Tewksbury, 1998).

Mustaine and Tewksbury (1998) administered 1,513 surveys to college students located at 9 different universities. This survey instrument measured individual levels of basic demographics and lifestyle routines. The authors first assessed whether the individuals had been the victim of a property crime within the last year and, if so, was the value of property stolen more or less than fifty dollars. The authors asked multiple questions in the following areas: type of activities participated in away from the home, amount of time exposed while away from the home, self report of illegal behaviors, type and number of home security measures, alcohol and drug use, and residential characteristics (Mustaine and Tewksbury, 1998).

The authors found a positive relationship between students who had been the victim of a larceny theft under fifty dollars and participation in other illegal activities, such as smoking marijuana and threatening another individual with a firearm. They also found a positive relationship between larceny under fifty dollars and high levels of social activities and poor neighborhood conditions. The authors found a negative relationship between students who had been the victim of a larceny under fifty dollars and owning a dog and living in a rural area (Mustaine and Tewksbury, 1998). The

authors found a positive relationship between those students who had been the victim of larceny over fifty dollars and how much time students spend outside the home and participation in other illegal activities. They also found a negative relationship between larceny over fifty dollars and dog ownership and having an additional lock on the front door (Mustaine and Tewksbury, 1998).

In 2000, Mustaine and Tewksbury expanded on the previous research. In the more recent research, Mustaine and Tewksbury (2000) addressed the differences and similarities of victims and offenders. The authors examined the crime of assault in an attempt to determine what differences and similarities exist among victims and offenders. Once again, Mustaine and Tewksbury (2000) relied on a survey administered to college students from 9 different universities.

The authors stated that victims of assault, offenders of assault and victim/offender of assault are three separate and exclusive categories worthy of attention. The truly unique category that the authors incorporated into the research was the victim/offender of assault. This described someone who, at the time of the crime, is both the victim and offender in an assault (Mustaine and Tewksbury, 2000).

The authors used individual levels of routine activities and neighborhood characteristics to determine if a person's lifestyle affects the likelihood of him or her becoming either a victim and/or an offender of an assault. The authors collected measurements for neighborhood characteristics, illegal drug behavior, alcohol consumption, type and number of leisure activities, illegal activities, and the amount of time exposed to potential offenders (Mustaine and Tewksbury, 2000).

The authors determined that using both micro-level and structural-level indicators of routine activities is important when examining issues of victim and offender assault. The authors found a significant positive relationship between assault victimization and the amount of alcohol an individual consumes his or her lifestyle activity, and his or her proximity to criminal offenders. For offenders of assault, the authors discovered a significant and positive relationship between offender assault and an individual's participation in other illegal behavior and poor neighborhood characteristics. For the relationship of a person being an offender and victim of an assault, the authors found a significant and positive relationship between the likelihood of these individuals committing other crimes, the amount of alcohol consumed, and using and selling drugs. These findings support the authors' claim that there are three separate and unique categories of victim/offender assault (Mustaine and Tewksbury, 2000).

Fisher, *et al*. (1998) also conducted a study examining the relationship between the routine activities of college students and victimization. These authors were interested in how a student's daily routine behaviors affect his or her odds of becoming the victim of a crime. They used a national representative sample of college students from 12 institutions. These 12 institutions were located in a combination of rural, urban and suburban university settings.

Fisher, *et al*. (1998) examined two different dependent variables in the analysis. First, they used reported victimization incidents for various violent acts such as assault, rape and robbery. Next, they used reported victimization incidents

for various property crimes such as theft and larceny. The independent variables in this study were designed to address issues of target suitability and guardianship. They measured student's proximity to crime, exposure to crime, target attractiveness, and security measures. These variables were created to determine if a student's daily routines increased levels of target suitability while decreasing guardianship. This is important due to the belief that when target suitability increases and guardianship decreases, personal victimization will increase (Fisher, *et al*. 1998).

The authors found a positive significant relationship between property crime victimization and how close in proximity a student lives to high crime areas. They also found that the more time a student spends away from home, the more likely they are to experience a residential property crime. For the issue of violence victimization, the authors discovered a positive significant relationship with levels of alcohol and drug consumption and time spent in away from home in social situations (Fisher, *et al*. 1998).

Byers and Crider (2002) conducted a unique qualitative study on crimes committed against the Amish. The authors stated that perpetrators of crimes against the Amish follow the basic assumptions outlined by routine activities theory. They hypothesized that hate crime offenders have unique levels of motivation and act out based on a lack of capable guardianship and a supply of suitable targets.

According to Byers and Crider (2002), members of the Amish community present a lack of capable guardians and a supply of suitable targets for those motivated individuals looking to commit crimes against the Amish. The Amish are

an isolated group of people who live in rural areas and keep to themselves. They also regularly travel by horse and buggy when moving about. The fact that they often travel alone or in very small groups and live in rural isolated areas creates a lack of capable guardians. These lifestyle patterns also provide a supply of suitable targets (Byers and Crider, 2002).

The authors interviewed 8 subjects who had been arrested for crimes against the Amish. The types of crimes these people committed against the Amish are referred to within the Amish community as incidents of Clapping. Clapping incidents involve acts of verbal harassment, destruction of property, killing Amish animals, and vandalism to Amish property (Byers and Crider, 2002).

Within the qualitative interviews, the authors discovered support for the hypotheses. They discovered that all of the 8 individuals who were interviewed were extremely motivated when it came to committing criminal acts against the Amish. The Amish presented convenient targets due to the cultural and physical isolation from mainstream society. The offenders all were aware that the Amish isolate themselves from society and this made them easier to target. This isolation also made for a lack of capable guardians. It was well known among these 8 individuals that the Amish regularly travel alone or in small groups. This lack of possible detection increased target suitability (Byers and Crider, 2002).

Spano and Nagy (2005) addressed the issue of violent crime among rural adolescents. The authors stated that while significant attention has been given to the routine activities of people living in urban areas, there has been little focus on how

the routine activities of people living in rural areas affects levels of victimization. Spano and Nagy (2005) hypothesized that certain unique aspects of living in a rural area will cause changes to levels of guardianship and target suitability. These aspects of rural life are social isolation and how it affects social guardianship. The authors questioned if social isolation actually reduces guardianship and makes someone more likely to be a victim of a violent act, or if it protects them from being exposed to potential offenders (Spano and Nagy, 2005).

The authors conducted a study on rural adolescents in Alabama. They studied two dependent variables: assault and robbery victimization. Assault victimization was measured by whether or not an individual was beaten up to the point of having a bruise or a scar. The authors also included threats of assault. Robbery victimization was measured by determining if something of value was taken from these individuals by threat or force (Spano and Nagy, 2005). The independent variables examined were age, race, gender, past criminal behavior, alcohol and drug consumption, peer group drug and alcohol consumption, levels of parental supervision, levels of social isolation, and whether or not an individual had ever been teased. Parental supervision was measured by determining if an individual lived at home with one or both parents, and if a curfew was enforced. Social isolation was based on answers provided to questions regarding how many close friends an individual had, and whether or not an individual felt they could ask someone for help if needed (Spano and Nagy, 2005).

Spano and Nagy (2005) found that increased levels of social guardianship reduced both assault and robbery victimization. Furthermore, the authors found that

social isolation was a strong predictor for both assault and robbery victimization. The authors also presented two interesting and unique findings from this study: black males and black females were least likely to be victims of both robbery and assault, and males as a whole were less likely to be victims of robbery (Spano and Nagy, 2005).

2. Non-Victimization Studies

While a majority of the empirical evidence that is used to support routine activities theory focuses on issues of victimization, there are a number of other criminal areas in which routine activities has been examined. In 1991, Roncek and Maier examined the relationship between high rates of crime in Cleveland, Ohio with high numbers of businesses that sell alcohol. They were interested in determining if areas in Cleveland with high numbers of alcohol establishments also had higher levels of overall crime rates. By using the assumptions of routine activities theory that certain ecological factors can affect levels of target suitability and guardianship, these authors hypothesized that areas with high numbers of bars and liquor stores would have more potential criminal targets and fewer guardians necessary to deter crime (Roncek and Maier, 1991).

Roncek and Maier demonstrated that alcohol establishments in Cleveland tend to be highly concentrated in particular areas of town. They argued that in these areas there are more likely to be people moving about who are inebriated and not in full control of the surroundings. They stated that when certain areas of town have high numbers of intoxicated people moving about, people become more suitable targets

due to an inebriated state. Furthermore, the fact that there also are more intoxicated people moving around does not help to increase guardianship. They argued that just because there are more people in a particular area does not mean these people serve as capable guardians. Roncek and Maier (1991) believe that intoxicated people do not provide capable protection from potential crime. These authors found that in those parts of Cleveland with the highest number of alcohol establishments, there also are the highest rates of crime (Roncek and Maier, 1991).

In 1996, Osgood, *et al.* examined the relationship between individual level routines and deviant behavior. Osgood, *et al.* (1996) attempted to expand the routine activities approach to individual levels of offending. The authors hypothesized that young adults who spend more unsupervised time in the presence of friends are more likely to offend when compared to those juveniles whose time spent with friends is supervised by some type of authority figure. They stated that when young adults spend time with friends outside the presence of authority figure adults they find it more rewarding to commit certain acts of deviance than when under the supervision of authority figures.

This study was conducted using a nationally representative sample of 18 to 26 year olds. The deviant behaviors examined in this research were minor criminal behavior, heavy alcohol use, marijuana use, other drug use, and dangerous driving. The unsupervised and unstructured behaviors that were examined included car rides for fun, visits with friends, going to parties, and evenings out with friends. The authors found that the more unsupervised and unstructured activities that a young

adult engages in, the more likely that person is to participate in the examined deviant behaviors. The authors believed that these findings support the idea that when young adults participate in an unsupervised and unstructured activity it increases levels of criminal motivation, and thus increases the likelihood of offending due to the lack of a capable guardian (Osgood, *et al*. 1996).

In 2004, Osgood and Anderson examined the relationship between the unstructured socializing of juveniles and rates of delinquency. They applied an individual level perspective of routine activities theory as a means of explaining high rates of juvenile delinquency. These authors hypothesized that the more time juveniles spend with friends in unstructured social environments the more likely they are to commit acts of delinquency. They believed that unstructured socializing increases levels of motivation and opportunity while decreasing levels of guardianship (Osgood and Anderson, 2004).

Osgood and Anderson (2004) analyzed the behavioral and delinquency patterns of over four thousand eighth grade students from thirty-six schools throughout ten different communities. These authors discovered that those juveniles who spent more time outside of the supervision of a parental figure and more time in the presence of peers were more likely to have committed simple acts of delinquency. The authors attributed this relationship to the different routine activity patterns experienced by those juveniles who spend more unsupervised time in the presence of peers when compared with those juveniles who spend less unsupervised time in the presence of friends (Osgood and Anderson, 2004).

In 1999, LaGrange used the concepts provided by the routine activities perspective to predict the spatial distribution of property crime. LaGrange (1999) combined data from three different sources to determine if the spatial proximity to schools and shopping malls increased levels of neighborhood property crime. LaGrange hypothesized that those neighborhoods closest in proximity to schools and shopping malls would be most likely to experience minor levels of property crime such as vandalism (LaGrange, 1999).

The author believed that areas closest to schools and shopping malls would attract the type of individuals who are most likely to commit acts of vandalism. LaGrange (1999) argued that large numbers of juveniles in smaller confined areas nearest schools and shopping malls are more likely to commit acts of vandalism due to reduced levels of guardianship and increased opportunity.

Using GIS technology along with other data sources, LaGrange (1999) found that rates of vandalism were higher in areas closer in proximity to shopping malls and schools. LaGrange (1999) also discovered that vandalism rates began to decline as distance increased from shopping malls and schools.

In 2002, Wang used routine activities theory to examine a string of bank robberies committed by Asian gang members in a southern United States city. The author conducted a content analysis of six bank robberies that took place in a 9 month period. The author stated that it is highly unusual to see such a pattern of criminal behavior among Asian males living in the United States. Wang (2002) predicted that

he would find increased levels of motivation and opportunity and with reduced levels of guardianship among bank robbery offenders

In examining each case, Wang (2002) discovered that the individuals involved in these bank robberies were all between the ages of 18 and 25 and were raised poor. He argued that a poor economic background can serve as motivation for someone who commits a crime such as bank robbery. The author discovered that these individuals also came from more socially disorganized backgrounds. He believed these disorganized backgrounds contributed to the lack of capable guardianship needed to keep individuals from acting on their motivation. Thus, the author believed that the socio-economic culture from which these individuals came was responsible for affecting the routine activity patterns of these male offenders.

Wang (2002) concluded that due to a high concentration of both banks and Asian males between 18 and 25 years of age that one could account for these robberies based on the routine activity patterns of these offenders. He stated that increased levels of opportunity is directly related to the high concentration of banks in the area and that increased motivation and lack of guardianship are both directly tied to the economic culture in which these individuals reside (Wang, 2002).

Nielsen and Martinez (2003) used a combination of routine activities theory and social disorganization theory to examine the relationship between alcohol and non-lethal violence in Miami, Florida. These authors stated that the availability of alcohol, when combined with certain poor economic indicators, increased levels of opportunity and decreased levels of guardianship, increases the likelihood of the

occurrence of a non-lethal violent act. They demonstrated that areas of Miami more centrally located to alcohol-serving establishments had higher rates of non-lethal violence. They defined non-lethal violence as robbery and aggravated assault (Nielsen and Martinez, 2003).

These authors used multiple variables to analyze the relationship between alcohol and non-lethal violence. They created a disadvantage index based on Census tract-level data for the city of Miami. They also incorporated measurements of residential instability, recent immigration, percentage of males, and proximity to downtown into this analysis. The authors discovered that the availability of alcohol, coupled with indicators of disorganization and routine activities are positively related to rates of non-lethal violence (Nielsen and Martinez, 2003).

The aforementioned literature review concludes my coverage of the recent empirical studies conducted testing routine activities theory. The conditions of routine activities theory are very flexible and can be tested in many different varieties. My research is based on the condition of guardianship. Levels of guardianship determine where individual drug users go to purchase drugs. In the following chapter, I further develop my research questions around the idea of guardianship, introduce my hypotheses, and discuss the data and methods used in my research.

Chapter IV

Development of Research Questions and Data and Methods

What factors determine where people purchase drugs? All things being equal, a person who purchases drugs from a closed-air drug market is taking less risk of being detected by the police when compared to someone who purchases drugs from an open-air drug market. But the information provided in Tables 1-4 demonstrates that there is substantial variation between cities in drug market patterns. Thus, it is important to develop a better understanding of why people purchase drugs from certain locations.

Answers to our question might be found by examining how certain community-level ecological variables and individual level variables affect levels of guardianship. Felson (2002) suggested that poverty and unemployment often create reduced levels of guardianship. He believed that poor communities often provide an ideal setting for the establishment of illegal markets that trade in either second-hand or illegal goods. For example, in areas with high rates of poverty, people look for alternative markets to provide certain goods and services. One of the goods often provided via illegal markets is illegal drugs. He argues that illegal drug markets are established in poorer areas as a way of supplying an alternative form of labor and providing a needed product to the numerous drug users within a community. He also states that once illegal markets have been established in a community, guardianship is reduced due to community members' need for the items provided by these illegal markets.

Building on the arguments developed by Felson (2002), I suggest that communities suffering from poor economic conditions have reduced levels of guardianship and drug users in these communities are less likely to purchase drugs from closed-air drug markets. This argument stems from research by Felson regarding how economic conditions affect guardianship. He showed that guardianship decreases in poor areas due to increased levels of community disadvantage.

Felson (1983; 1987) stated there are four types of crime: exploitative, mutualistic, competitive, and individualistic. Exploitative crime is an offense that must have one person doing damage to a person or property, for example, rape or burglary. Mutualistic crime includes offenses that require two or more people to act together in complementary criminal roles. An example of a mutualistic offense would be a drug market transaction between a dealer and a user. Competitive crime is an offense that requires two individuals acting in the same criminal role with one another, such as a physical confrontation. Individualistic crime is an offense that requires the participation of only one individual. An individualistic crime would be individual drug use.

The type of crime being examined within this research is mutualistic, involving two or more people coming together in the commission of a criminal act. During a drug transaction, you must have at least two individuals: a buyer and a seller. Felson (1987) stated that in order for a mutualistic crime to occur, two individuals must come together in time and space. The key question is what

community-level and individual-level factors account for making two individuals less likely to come together in a closed-air drug market for the commission of a drug transaction?

Building on Felson's ideas of how poor economic conditions can affect guardianship, I have chosen to use variables that are traditionally examined as measurements of community disadvantage. Issues of poverty, education, unemployment, single parent families, race, and gender have all been examined with respect to community-level disadvantage (Miethe, *et al*., 1987). Variables such as race, gender, income, marital status, and age all are significantly correlated with criminal victimization. Social differences in terms of race, gender, income, marriage and age affect the routine activities of certain individuals and place some people at a great risk of being victimized (Miethe, *et al*. 1987).

In 1988, Stahura and Sloan used demographic variables to examine how poverty, unemployment, race, and age affect an individual's daily routine and criminal motivation level. Stahura and Sloan (1988) hypothesized that individuals living in poor economic areas have different daily routine patterns and different levels of criminal motivation when compared with people living in non-poor areas. Among other things, these authors found that individuals living in poorer areas experience higher levels of criminal motivation. The authors attributed this to the fact that living in poor areas affects a person's daily routine.

I also use certain individual-level variables that are predictors of criminality to determine if individual criminality makes people less likely to purchase drugs from

closed-air drug markets. I use individual measurements for non-white racial status, no high school degree, unemployed, current drug arrest, prior arrest, no fixed residence, and at risk for drug dependency as indicators of criminality. I predict that people with a higher likelihood of criminality will be less likely to purchase drugs from closed-air markets because these people care less about avoiding detection and more about the convenience of obtaining drugs from an easy to locate, open-air drug market.

I examine how certain variables affect levels of guardianship which can then affect where people go to purchase drugs. I have chosen to examine six structural-level independent variables and seven individual-level independent variables for this project. The structural variables for this project are poverty, no high school degree, unemployment, female-headed households, race, and age and are indicators of community disadvantage. I believe these variables affect levels of guardianship which can then determine where drug users go to purchase drugs. The individual-level variables for this project are non-white, no high school degree, unemployed, current drug arrest, past arrest, no fixed residence, and at-risk for drug dependency and are indicators of criminality. I believe these variables affect how concerned drug users are with avoiding detection which can determine where drug users go to buy drugs.

Traditionally, social disorganization theory has been solely a macro level theory used to explain structural level criminality. It has never been used to explain issues of decision making or individual level opportunity. Routine activities theory is

more of a theory of criminal opportunity and can be used in conjunction with both macro and micro level issues of crime. Since this research examines how structural level and individual level issues affect individual-level decision making, I decided to incorporate concepts of routine activities theory.

Hypotheses

Based on the aforementioned literature, I developed a set of hypotheses that are listed below. I designed these hypotheses around the belief that certain ecological and individual factors affect where drug users go to purchase drugs.

Hypothesis 1: As the percentage of people in a city who live below the poverty level increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 2: As the percentage of people in a city without a high school degree increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 3: As the percentage of people in a city who are unemployed increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 4: As the percentage of female-headed households in a city increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 5: As the percentage of non-white residents in a city increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 6: As the percentage of males between the ages of 15 and 24 living in a city increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 7: As the level of community disadvantage in a city increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypothesis 8: As the likelihood of individual criminality increases, people who buy drugs are less likely to do so in closed-air drug markets.

Hypotheses 1 through 6 are based on addressing the issue of how guardianship affects where drug users go to purchase drugs. I contend that as a city experiences increases in poverty, the number of people without a high school degree, unemployment, female-headed households, non-white citizens, and males between the age of 15 and 24, it will experience a reduction in the overall levels of guardianship which are needed to control certain behaviors.

I argue that with a reduction in levels of guardianship, drug users will be less likely to purchase drugs from closed-air drug markets. As previously stated, it makes more sense for a drug user to purchase drugs from a location that gives them the best opportunity to avoid police detection. If guardianship is high, drug users will be more likely to purchase drugs indoors due to the safety involved with buying drugs indoors. However, I believe that buying drugs from someone indoors is more difficult for a

typical drug user. This difficulty comes from the fact that closed-air drug markets are less visible and harder for a drug user to locate. Conversely, when guardianship is low, drug users will be less likely to purchase drugs indoors because of the reduced odds of police detection and the ease that comes with now having the opportunity of buying drugs on the street.

Hypothesis 7 is based on the aforementioned logic that as guardianship decreases, drug users become less likely to purchase drugs from closed-air drug markets. I formed this hypothesis based on the belief that variables representing poverty, no high school degree, unemployment, female-headed households, non-white, and males 15-24 all are predictors of community disadvantage. Using the routine activities theory, I predict that as levels of community disadvantage increase, drug users will be less likely to purchase drugs from closed-air drug markets.

Hypothesis 8 is based on the belief that the more likely an individual is to be criminal, the less likely he or she is to purchase drugs from a closed-air drug market. I use seven individual-level variables that are all indicators of increased levels of individual criminality. These individual variables are non-white, no high school degree, unemployed, current drug arrest, past arrest, no fixed residence, and at risk for drug dependency. I argue that individuals who are non-white, who do not have a high school degree, are unemployed, are facing a current drug arrest, have been previously arrested, are homeless, and are considered at risk for drug dependency are all people with a greater likelihood of criminality. I believe this increased likelihood of criminality makes drug users less likely to purchase drugs indoors because they do

not have the same fear of police detection as people who do not have such a variable propensity towards criminality.

Data and Methods

Goldstein once acknowledged the poor quality of data pertaining to drugs, drug markets and violence. He argued that typical data generated from popular sources such as the Bureau of Justice Statistics (BJS) fail to address the necessary components needed to examine these relationships. He believed that the dynamic of drugs, drug markets and violence is so unique that generic research instruments fall short of properly addressing these issues. For Goldstein, the most successful method of generating information on this topic has come from non-quantitative research (Goldstein, 1985). The limitation of such data, of course, is that they usually are based on single locations or relatively small samples, resulting in a poor ability to generalize beyond the study.

The data set I created for this project is an effort to deal with Goldstein's complaint. It is a hybrid of data gathered from two separate sources. The first data source comes from survey data provided by the National Institute of Justice (NIJ) Arrestee Drug Abuse Monitoring Program (ADAM) project. The second data source is the United States Census Bureau. Below, I will first describe the collection methods of the ADAM survey instrument. I will then discuss how I merged certain components of the ADAM instrument with the Census data to create a very unique data set.

ADAM Collection Methods

The Arrestee Drug Abuse Monitoring (ADAM) project was a national project funded by the National Institute of Justice (NIJ). There were 35 national data collection sites in the national ADAM project. These sites were located throughout the United States and were primarily positioned in large urban and metropolitan areas. One of the unique aspects of this project is the diverse nature of communities in which data was collected. For example, data collection took place in urban areas such as New York City, New York, Philadelphia, Pennsylvania, and Los Angeles, California as well as in cities such as Omaha, Nebraska, Oklahoma City, Oklahoma and Albuquerque, New Mexico.

The ADAM project consisted of the administration of a survey instrument to a sample of recently arrested individuals. Data collection took place inside a county or city jail facility located within the boundaries of the host community. Data were collected during an eight-hour time span coinciding with when the host community experienced its highest number of arrest incidents.

The actual survey instrument used for this project took approximately thirty minutes to complete and was administered by a federally certified and trained interviewer. This survey was completely voluntary. The survey questions ranged from basic demographic questions to questions regarding drug markets, drug history, and drug treatment.

Each interview subject had been arrested within the previous forty-eight hours. On completion of each successful interview, the interview subjects were

required to provide a urine sample. After providing the sample, the interview subject was then provided with his or her incentive, most typically a candy bar. This urine sample was then sent off to an independent laboratory for analysis.

The survey instrument consisted of various topics ranging from basic demographic questions to a wide range of drug history questions. The part of the survey instrument I use comes from the sections concerned with drug history. More specifically, I use the parts of the survey that measured where people went to purchase drugs.

Cleaning of the ADAM Data

The original ADAM data set consists of data collected on both males and females. For this project, I am only using data collected from males compiled during 2002 and 2003. The reason for this decision is that only 8 of the 35 ADAM sites had complete data for women subjects. The remaining 27 sites had many data periods where no data were collected.

At the beginning of this project, I first combined all of the individual data sets for each of the 35 ADAM sites. On completion of this task, I originally had 79,775 subjects in my sample. The sample size for this current project is now 42,396. There are four factors as to why individuals were removed from the sample.

First, I eliminated all people who were not current residents of the particular city in which they were arrested. A criterion that was used in arranging and cleaning these data focused on the residential location of the arrestees for each ADAM site. The indicator of residence that is used in the ADAM data is the arrestee's residential

zip code. Since this analysis relies on Census data, it is important to have an accurate sample of arrestees who actually reside in the particular city in which they were arrested. I did not want to discuss drug markets in a particular city using data that primarily consists of people who do not actually live in that same city.

In order to solve the problem of residential location, I first determined the zip codes for each of the 35 ADAM sites that are considered part of the physical parameters of each city. This task was completed by incorporating data from the United States Postal Service. Once completed, I was then able to clean the ADAM data and eliminate all of the individuals who were not residents of the city in which they were arrested. While this eliminated a large number of my sample, it was necessary in order to provide accuracy.

Table 5 displays the actual number of males for each of the 35 ADAM sites as well as the total number of males who were residents of the city in which they were arrested. The final column shows the percentage of residential retention for each ADAM site. In summary, there were 81,680 males in the original sample, and, after eliminating the individuals who were not residents of the city in which they were arrested, I was left with 51,902 males in this sample. Thus, for the ADAM data collected during 2002 and 2003, 63.5 % of the male sample is composed of individuals who resided in the city in which they were arrested.

For reliability and accuracy purposes, the second step in cleaning these data involved removing data from any city that failed to have a residential retention rate above 50 percent. In looking at Table 5, I eliminated cities such as Los Angeles,

California and Phoenix, Arizona which had residential retention rates of 11.1 and 33.9 percent, respectively. I believe that keeping these data would only create problems when examining the dynamics of a community's drug market. I argue that by keeping these data I would jeopardize the validity of my findings.

Table 5

ADAM 2002-2003 Total Males and Total Males Who Reside in City of Arrest

ADAM CITY 2002-2003	Total Males 2002-2003	Total Males City Only 2002-2003	Percent of Retention
Albany (capital area)	2,384	805	33.7%
Albuquerque	3,019	2,296	76.0%
Anchorage	1,393	1,114	79.9%
Atlanta	2,249	1,295	57.5%
Birmingham	1,518	869	57.2%
Charlotte	1,760	1,368	77.7%
Chicago	2,428	1,960	80.7%
Cleveland	4,404	4,083	92.7%
Dallas	4,406	2,309	52.4%
Denver	2,054	1,530	74.4%
Des Moines	1,623	1,137	70.0%
Honolulu	2,094	851	40.6%
Indianapolis	2,256	1,952	86.5%
Laredo	229	204	89.1%
Las Vegas	3,125	1,967	62.9%
Los Angeles	1,206	135	11.1%
Minneapolis	3,233	2,429	75.1%
New Orleans	1,395	1,144	82.0%
New York City	2,562	1,716	66.9%
Oklahoma City	1,961	1,455	74.1%
Omaha	1.907	1,641	86.0%
Philadelphia	1,570	1,318	83.9%
Phoenix	4,872	1,655	33.9%
Portland	2,984	1,715	57.4%
Sacramento	2,484	1,442	58.1%
Salt Lake City	1,970	1,298	65.8%
San Antonio	2,199	1,908	86.7%
San Diego	3,202	1,095	34.1%
San Jose	3,727	1,786	47.9%
Seattle	3,383	1,499	44.3%
Sioux City	504	360	71.4%
Spokane	1,991	1,556	78.1%
Tucson	2,006	1,599	79.7%
Tulsa	1,970	1,295	65.7%
Washington DC	1,612	1,116	69.2%
Total	79,775	51,902	65.0%

The third step in cleaning these data involved removing anyone from the sample who did not have a completed ADAM survey. This included people who either refused the survey at the beginning of the interview, who were not available, or who terminated the survey before its completion.

The final step of cleaning these data involved removing data from ADAM locations that did not collect data on a regular basis. The basic procedure for collection of ADAM data required data collection during each quarter of a calendar year. Thus, each ADAM site should have collected data four separate times throughout the year. For reliability purposes, I eliminated data from cities that did not collect data during each of the four quarters of 2002 and 2003. This eliminated the cities of Washington, D.C., Laredo, Texas and Sioux City, Iowa. While these cities all had high levels of residential retention, each failed to collect data on a regular basis during 2002 and 2003. Table 6 is a list of the 25 cities that are included in this study.

Table 6

ADAM Cities Included in Final Analysis

ADAM CITY 2002-2003	Total Males 2002-2003	Total Males City Only 2002-2003	Percent of Retention
Albuquerque	3,019	2,296	76.0%
Anchorage	1,393	1,114	79.9%
Atlanta	2,249	1,295	57.5%
Birmingham	1,518	869	57.2%
Charlotte	1,760	1,368	77.7%
Chicago	2,428	1,960	80.7%
Cleveland	4,404	4,083	92.7%
Dallas	4,406	2,309	52.4%
Denver	2,054	1,530	74.4%
Des Moines	1,623	1,137	70.0%
Indianapolis	2,256	1,952	86.5%
Las Vegas	3,125	1,967	62.9%
Minneapolis	3,233	2,429	75.1%
New Orleans	1,395	1,144	82.0%
New York City	2,562	1,716	66.9%
Oklahoma City	1,961	1,455	74.1%
Omaha	1,907	1,641	86.0%
Philadelphia	1,570	1,318	83.9%
Portland	2,984	1,715	57.4%
Sacramento	2,484	1,442	58.1%
Salt Lake City	1,970	1,298	65.8%
San Antonio	2,199	1,908	86.7%
Spokane	1,991	1,556	78.1%
Tucson	2,006	1,599	79.7%
Tulsa	1,970	1,295	65.7%
Total	58,467	42,396	72.5%

After the completion of these four data cleaning techniques I was left with data from 25 of the original thirty-five ADAM locations. The sites that were eliminated are: Albany, New York, Honolulu, Hawaii, Laredo, Texas, Los Angeles, California, Phoenix, Arizona, San Diego, California, San Jose, California, Seattle, Washington, Sioux City, Iowa, and Washington, D.C.

The ADAM sites that are included in this study are: Albuquerque, New Mexico, Anchorage, Alaska, Atlanta, Georgia, Birmingham, Alabama, Charlotte, South Carolina, Chicago, Illinois, Cleveland, Ohio, Dallas, Texas, Denver, Colorado, Des Moines, Iowa, Indianapolis, Indiana, Las Vegas, Nevada, Minneapolis, Minnesota, New Orleans, Louisiana, New York City, New York, Oklahoma City, Oklahoma, Omaha, Nebraska, Philadelphia, Pennsylvania, Portland, Oregon, Sacramento, California, Salt Lake City, Utah, San Antonio, Texas, Spokane, Washington, Tucson, Arizona, and Tulsa, Oklahoma.

Dependent Variables

The dependent variables for this project come from the ADAM survey data provided by the National Institute of Justice (NIJ). These data were collected each quarter, for 14 consecutive days. Thus, these data were collected during 8 independent data collection periods over a two-year time span. The original data set consists of 35 cities throughout the United States.

The dependent variables measure how people buy drugs. The dependent variables are based on the question, “From what type of location did you obtain your drugs?” The response options that were provided on the survey instrument are: in a

house or apartment, in a public building such as a store, bus station, gas station, or restaurant, in an abandoned building, on a street, alley, road, or other outdoor area such as a park, or parking lot. The data for these response options is provided in Table 7. As displayed in Table 7, drugs purchased within a house or apartment, in a public building, or in an abandoned building are considered closed-air drug markets. Drugs purchased on the street, in an alley, or from some other outdoor area such as a park or parking lot are considered open-air drug markets. For marijuana, crack cocaine, powder cocaine, and heroin, the distribution of open- versus closed-market purchases is fairly even with there being only slightly fewer closed-market purchases. Methamphetamine purchases, however, predominately took place within closed markets. I will further address this issue in my analysis section.

Table 7: Types of locations of where drugs were purchased

	Marijuana Purchases	Crack Purchases	Powder Cocaine Purchases	Heroin Purchases	Meth Purchases	Total
House or Apartment	2,169 (35.4 %)	869 (27.6 %)	471 (31.8 %)	350 (27.5 %)	830 (73.8 %)	4,689 (35.2 %)
Public Building	563 (8.7 %)	210 (6.8 %)	196 (13.4 %)	72 (5.6 %)	105 (9.4 %)	1,146 (8.6 %)
Abandoned Building	60 (0.9 %)	58 (1.7 %)	29 (1.9 %)	21 (1.7 %)	10 (1.0 %)	178 (1.3 %)
Street or Alley	2,868 (45.4 %)	1,800 (57.1 %)	652 (43.9 %)	726 (57.1 %)	103 (9.1 %)	6,149 (46.2 %)
Other Outdoor Area	616 (9.6 %)	210 (6.8 %)	134 (9.0 %)	103 (8.1 %)	76 (6.7 %)	1,139 (8.5 %)
Total	6,276	3,147	1,482	1,272	1,124	13,301

The numbers represented in Table 7 are based on the number of people who answered "yes" to purchasing a particular drug within the past thirty days prior to arrest. The original sample began with 79,775 arrestees. After cleaning the data, I was left with a sample of 42,396 arrestees across 25 ADAM site locations. The totals displayed in Table 7 are based on the total of 42,396 arrestees. For example, when looking at the total number of marijuana purchases that were purchased in a house or an apartment, this number is representative of how many of the 42,396 arrestees admitted to purchasing marijuana in the past thirty days in either a house or an apartment.

I took the resulting data and created a dummy variable by collapsing all of the public open-air drug market locations into one category and all of the private closed-air drug market locations into another category. Closed-air drug markets are represented as 1 and open-air drug markets are represented as 0.

I constructed closed-air drug market variables for each of the five different drugs: marijuana, crack cocaine, powder cocaine, heroin, and methamphetamines.

Independent Structural Variables

The explanatory measures for this study are based on community data that were collected in 2000 by the United States Census Bureau.

Percent Poverty is based on the percentage of people in a community who live below the poverty level.

Percent No High School Degree is based on the percentage of people over the age of 18 in a community who do not have a high school degree or GED equivalency.

Percent Unemployment is based on the percentage of people in a community who are unemployed.

Percent Female Headed Household is based on the percentage of households in a community that consist of a single female with one child or more.

Percent Non-White is based on the percentage of people in a community who are non-white.

Percent Males Age 15-24 are based on the percentage of males in a community between the ages of 15 and 24.

Poverty, no high school degree, unemployment, female headed households, percent non-white, and percent males age 15-24 are all variables that were created through the use of the United States Census Bureau. Each variable is used to determine the effects that those various ecological variables have on levels of guardianship.

In constructing these variables, I first located census data for each of the 25 cities in this study. These data were taken from the www.census.gov website. After locating these data, I calculated percentages and proportions for each variable needed. On completion of these calculations, I then assigned the proper variable percentage or proportion to each corresponding city.

Based on issues of colinearity among my independent variables, I conducted a factor analysis. Based on results from this factor analysis I have created a scale representative of community disadvantage. I have named this variable **Community Disadvantage**. The variables used to create this scale are: Percent Poverty, Percent No High School Degree, Percent Unemployed, Percent Female-Headed Households, and Percent Non-White. Table 8 includes the means, standard deviations and factor-loading scores for all the variables included in this community disadvantage scale.

To create the community disadvantage scale, all six structural independent variables were entered into a principal components analysis with varimax rotation. The principal components analysis produced two factors with eigenvalues greater than one. To give equal weight to each item's variance in the variance of composite scores, I use z-score transformations of each item to create the scale. The scale was created by adding the z-scores.

Most of the variables loaded on the first factor, which had an eigenvalue greater than four. The second factor's eigenvalue was 1.0. Based on the gap between eigenvalues of the first and second factor and on past research (Grasmick *et al*. 1993; Piquero and Rosay, 1998), I decided that a one factor scale was best. The one factor scale consists of five of the six original variables. The one variable that did not load on this factor was Percent Male 15-24 and will be included separately in the analysis. The Cronbach's alpha for this scale is .92.

Table 8: Community Disadvantage Scale Items

Item	Mean	S.D.	Factor Loading
Percent Poverty	17.2	5.21	.939
Percent No H.S Degree	22.0	6.13	.846
Percent Unemployed	4.76	1.26	.738
Percent Female Headed Households	15.8	4.62	.889
Percent Non-White	47.8	17.3	.873

Individual-Level Independent Variables

The following variables are individual measures taken from the ADAM arrestee sample and are used as indicators of individual-level criminality.

Non-White is based on the race of each individual arrestee. This is a dummy variable with non-white individuals represented as 1 and whites represented as 0.

No High School Degree is based on the education levels of each individual arrestee. This is a dummy variable representing individuals with less than a high school education represented as 1 and a person with a high school education or greater represented as 0.

Unemployment is based on the employment status of each individual arrestee. This is a dummy variable with unemployed individuals represented as 1 and employed individuals represented as 0.

Current Drug Arrest is based on whether or not an individual arrestee was arrested for a drug charge. This is a dummy variable with people in jail for a current drug arrest represented as 1 and people who are in jail for a non-drug arrest represented as 0.

Past Arrest is based on the past arrest history of each individual arrestee. This is a dummy variable with people who have been previously arrested being represented as 1 and people who have never been arrested prior to this even being represented as 0.

No Fixed Residence is based on the residential status of each individual arrestee. Residential status is representative of whether or not each individual arrestee lives in a traditional house, apartment or similar dwelling. This is a dummy variable with people who live in a traditional residential dwelling represented as 1 and people who do not live in a traditional residential dwelling represented as 0. Non-traditional residential dwellings are places such as shelters, jails, prisons, hotels or hospitals. People who are homeless are categorized as people who live in non-traditional dwelling.

At Risk for Drug Dependency is based on the each individual arrestee's answers to questions that evaluate risk level for becoming dependent on drugs. This is a dummy variable with people who are at risk of becoming drug dependent being represented as 1 and people who are not at risk being represented as 0.

Each of these variables were created using ADAM survey data. These variables were used to indicate individual-level criminality. I include groupings of these variables at different stages of the analysis. In Model III, I include non-white, no high school degree, and unemployed since these three variables are often used as basic demographic predictors of criminality. In Model IV, I include current drug arrest and past arrest. I did this based on the argument that these two variables are good predictors of both current and past criminal behavior. In Model V, I include no fixed residence and at-risk for drug dependency. I did this based on the belief that these two variables are indicators of people who might not be very stable and thus more inclined towards criminality.

Analytic Technique

One of the most common forms of statistical analysis that is used to examine the relation between independent variables and dependent variables is ordinary least squares (OLS) regression. OLS regression techniques provide an estimate of how much variation an independent variable has on a particular dependent variable. A methodological requirement when using OLS regression is that the dependent variable must be an interval level measurement.

The five dependent variables that I have created for this project are not interval level variables; they are dichotomous, nominal-level variables. Thus, I rely on binary logistic regression techniques to conduct my analysis. Binary logistic regression recalculates each of these dependent variables into a number commonly referred to as logit. Logit is the natural log of the odds of a case being coded as 1. Each dependent variable's numerical value is expressed within a range of plus or minus infinity as opposed to being contained within a value between 0 and 1 (DeMaris, 1992; 1995).

Covariate values also change when using binary logistic regression techniques. When utilizing binary logistic regression, the unstandardized logit coefficient represents the average change in the log of the odds of a case being coded as 1 on the dependent variable for each one unit change in the independent variable (Hill, 2004; Menard, 1995).

Binary logistic regression computes a statistic referred to as the odds ratio. The odds ratio is the exponential form of the unstandardized logit coefficient

(Menard, 1995). The odds ratio provides a comparison of the relative odds that each category of an independent variable being coded as 1 has on the dependent variable (Menard, 1995).

Chapter V

Results

Before I discuss my results, I need to address two caveats that are present in this research. First, concerns the potential for my study to engage in an "ecological fallacy." The ecological fallacy is a common error in how data often are interpreted. The ecological fallacy occurs when inferences are made about individuals based on only structural level data. The ecological fallacy transpires when researchers claim that all members of a study are affected in the same manner by aggregate level data. While this fallacy occurs quite often in structural-level criminology research, it is problematic to not address it prior to the discussion of the results.

In this research project, I am using structural level data to make inferences about individual level behavior patterns. More specifically, I am using city level data that represents community disadvantage to explain why individual level drug users are less likely to purchase drugs from closed-air drug markets. While I will continue to make this inference throughout the remainder of this research, I wanted to address the fact that I am aware of the ecological fallacy dilemma.

The second caveat has to do with the composition of my sample. I have referenced the individuals in my study as individual drug users who admitted to purchasing drugs from either open-air or closed-air drug markets. While this is true, these individuals are not representative of all individual drug users. The actual sample in this study is only representative of individual drug users who were both residents and arrestees of one of the 25 ADAM cities used in this analysis between

2002 and 2003. Instead of referencing my sample each time in such a lengthy manner, I will continue to simply refer to them as "drug users."

Basic Demographics

There are five dependent variables that have been tested. They consist of drugs purchased by individuals from closed-air drug markets. The type of drug markets are: marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine. It is the independent analysis of each of these drugs that makes this research an important addition to the academic literature. In past research, all drugs have been treated the same and not analyzed independently. The following analysis will demonstrate how each of these drugs creates unique independent drug markets. Tables 9 through 11 present basic demographics and correlations for the independent and dependent variables.

Table 9 demonstrates descriptive statistics for the five categories of dependent variables. These statistics are taken from 2002 and 2003 ADAM data and consist of information gathered in 25 urban communities. The total number of individuals who purchased marijuana is 6,276. I have divided this figure into open-air and closed-air drug markets. The total number people who purchased marijuana in closed-air drug markets are 2,792. This figure represents 45 % of the total number of people who admitted to purchasing marijuana. The total number of individuals who purchased crack cocaine is 3,147. Of this total number of individuals, 36 % admitted to purchasing crack in closed-air drug markets. The total number of people who purchased powder cocaine is 1,482. Of this total number of individuals, 47 %

purchased powder cocaine from closed-air drug markets. The total number of people who purchased heroin is 1,272. Of this total number of individuals, 35 % purchased heroin from closed-air drug markets. Finally, the total number of people who purchased methamphetamine is 1,124. Of this total number of individuals, 84 % purchased methamphetamine from closed-air drug markets. Based on these findings, marijuana is the drug that is most frequently purchased. It is also interesting to point out that methamphetamine is the only drug that is purchased more frequently in closed-air markets.

Table 9

Descriptive Statistics for Dependent Variables
2002 and 2003 Drug Market Data for 25 Urban Communities

	Total	Number of Open-Air Drug Markets	Percentage of Open-Air Drug Markets	Number of Closed-Air Drug Markets	Percentage of Closed-Air Drug Markets
Marijuana	6,276	3,484	55.5	2,792	44.5
Crack Cocaine	3,147	2,010	63.9	1,137	36.1
Powder Cocaine	1,482	786	53.0	696	47.0
Heroin	1,272	829	65.2	443	34.8
Methamphetamine	1,124	179	15.9	945	84.1

Table 10 presents descriptive statistics for the independent variables used in this analysis. I also report minimum and maximum values, the mean, and the standard deviation for each independent variable. The continuous variables for Percent Poverty, Percent No High School Degree, Percent Unemployed, Percent Female Headed Households, Percent Non-White, and Percent Male Age 15-24 are variables based on percentages taken from United States Census Bureau data. The independent level variables for Non-White, No High School Degree, Unemployed, Current Drug Arrest, Past Arrest, No Fixed Residence, and At Risk for Dependency are variables based on the Arrestee Drug Abuse Monitoring (ADAM) data.

Table 10

Descriptive Statistics for Continuous and Dichotomous Independent Variables
N = 42,396

	Minimum	Maximum	Mean	Std. Deviation
Community Disadvantage	-5.7	7.3	.00	4.4
% Poverty	7.30	27.9	17.2	5.2
% No H.S. Degree	11.1	32.0	22.0	6.1
% Unemployed	3.0	9.0	4.7	1.2
% Female Headed Household	10.2	24.8	15.8	4.6
% Non-White	12.1	76.5	47.8	17.3
% Percent Male Age 15-24	6.5	9.4	7.4	.75
Non-White*	.00	1.0	.64	.47
No H.S. Degree*	.00	1.0	.60	.48
Unemployed*	.00	1.0	.66	.47
Current Drug Arrest*	.00	1.0	.18	.39
Past Arrest*	.00	1.0	.48	.49
No Fixed Residence*	.00	1.0	.47	.49
At Risk for Dependency*	.00	1.0	.28	.45

* variables based on individual level data obtain from ADAM Data 2002 and 2003

Table 11 consists of the correlations for each independent variable. All of the continuous variables are correlated at the .01 level. A problem of colinearity occurs when attempting to measure the significance between each structural level independent variable. This led to the creation of the factored variable community disadvantage. Discussed previously in the data and measurements chapter, community disadvantage is a factored variable consisting of Percent Poverty, Percent no High School Degree, Percent Unemployed, Percent Female Headed Households, and Percent Non-White. Percent Male 15-24 did not load with this factor and will be analyzed independently.

Table 11

Independent Variable Correlations on Continuous and Dichotomous Variables

Lower Diagonal Pairwise Deletion

	1	2	3	4	5	6	7	8	9	10	11	12	13
% Poverty	1.000												
% No H.S. Degree	.73*	1.000											
% Unemployed	.71*	.48*	1.000										
% Female Headed	.88*	.74*	.72*	1.000									
% Non-White	.71*	.80*	.48*	.72*	1.000								
% Male Age 15-24	-.05*	-23*	-.19*	-.33*	-.06*	1.000							
Non-White	.23*	.25*	.17*	.26*	.35*	-.02*	1.000						
No H.S. Degree	.04*	.02*	.01*	.04*	.01	-.04*	.02*	1.000					
Unemployed	.02*	-.01*	.03*	.01*	-.03*	-.05*	.01	.48*	1.000				
Current Drug Arrest	.12*	.16*	.13*	.14*	.14*	-.03	.08*	-.02*	-.01	1.000			
Past Arrest	-.01	.03*	.01*	.01	.04*	.04*	.03*	-.56*	-.47*	.09*	1.000		
No Fixed Residence	-.03*	-.07*	-.02*	-.04*	-.09*	-.05*	-.05*	.59*	.57*	-.10*	-.69*	1.000	
At Risk for Dependency	.03*	.04*	.05*	.03*	.05*	.02*	.02*	-.32*	-.22*	.18*	.49*	-.42*	1.000

* Correlation is significant at the .01 level (2-tailed)

Bivariate Logistic Regression Analysis

On completion of the preliminary frequencies, more analyses were conducted in order to test the hypotheses. Table 12 displays bivariate logistic regression coefficients for marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine closed-air drug markets. This table represents bivariate analyses that were conducted for each of the five drugs used in this study. I have combined the data from each of the bivariate regressions into one table.

For marijuana closed-air drug markets, each independent variable is statistically significant. With the exception of Percent Male Age 15-24 and Past Arrest each variable has a negative coefficient.

For crack cocaine closed-air drug markets, all of the independent variables, except At Risk for Drug Dependency, are statistically significant. Percent Male Age 15-24 and Past Arrest are the only two variables with statistically significant positive coefficients.

For powder cocaine closed-air drug markets, the coefficients for Percent Poverty, Percent No High School Degree, Percent Unemployed, Percent Female Headed Households, Percent Non-White, Current Drug Arrest, No Fixed Residence, and At Risk for Drug Dependency are all negative and statistically significant.

For heroin closed-air drug markets, the coefficients for Percent Poverty, Percent No High School Degree, Percent Unemployed, Percent Female Headed Households, Percent Non White, Non-White, and Current Drug Arrest are all negative and statistically significant.

Finally, for methamphetamine closed-air drug markets, Non-White is negative and statistically significant. This is the only variable in the bivariate regressions for methamphetamine closed-air drug markets that is significant.

The results for methamphetamine closed-air drug markets are much different when compared to the findings for the other four closed-air drugs markets. I believe this has to do with the cultural differences involved with methamphetamine drug use. Methamphetamine represents a newer drug in society. The general consensus among drug researchers is that methamphetamine drug use involves people who are using new techniques to manufacture the drug and avoid detection. As a result of these new techniques, I believe the old model of drugs being sold on the street does not apply to methamphetamine drug markets.

In addressing these new techniques, methamphetamine is most often made inside residential dwellings and is most likely sold in close proximity to where the drug is made. During the manufacturing process of methamphetamine, an odor is present. Due to this odor, methamphetamine manufacturers attempt to make methamphetamine away from the general public. This leads to methamphetamine labs often being established in rural areas. As a result of attempting to avoid detection, it appears typical open-air drug market activity does not apply to methamphetamine drug markets.

Throughout these bivariate analyses, there are high levels of significance among many of the independent variables. I will now discuss the relationship of this

significance with my research hypotheses. There were varying levels of statistical significance for each of the structural variables.

Summary of Bivariate Logistic Regression Results

For Percent Poverty, I predicted that as the percentage of people in a city who live below the poverty level increases, people who purchase drugs will be less likely to do so in closed-air drug markets. The findings for this variable were as predicted for all but one of the closed-air drug markets. Percent Poverty was not significant for methamphetamine closed-air drug markets.

The findings for marijuana, crack cocaine, powder cocaine, and heroin closed-air drug markets support my research hypotheses. I predicted that as poverty increases in a city, drug users will be less likely to purchase drugs from closed-air drug markets. I believe this is due to how poverty affects levels of guardianship. I believe that increases in poverty lead to increases in community disorganization. This then leads to less guardianship, which in turn leads to drug users no longer having to purchase drugs indoors in order to avoid possible police protection.

For Percent No High School Degree, I predicted that as the percentage of people in a city who do not have a high school degree increase, people who purchase drugs will be less likely to do so in closed-air drug markets. The findings for this variable were as predicted for all but one of the closed-air drug markets. Percent No High School Degree was not significant for methamphetamine closed-air drug markets.

The findings for marijuana, crack cocaine, powder cocaine, and heroin closed-air drug markets support my research hypotheses. I predicted that as the number of people without a high school degree increases in a city, drug users will be less likely to purchase drugs from closed-air drug markets. I believe this is a result of how the lack of education can affect levels of guardianship. I believe that decreases in the overall lack of education lead to increases in community disorganization. This leads to less guardianship, which in turn leads drug users to no longer having to purchase drugs indoors in order to avoid possible police protection.

For Percent Unemployed, I predicted that as the percentage of people in a city who are unemployed increases, people who purchase drugs will be less likely to do so in closed-air drug markets. The findings for this variable were as predicted for all but one of the closed-air drug markets. Percent Unemployed was not significant for methamphetamine closed-air drug markets.

The findings for marijuana, crack cocaine, powder cocaine, and heroin closed-air drug markets support my research hypotheses. I predicted that as unemployment increases in a city, drug users will be less likely to purchase drugs from closed-air drug markets. This may be a result of how unemployment affects levels of guardianship. It appears that increases in unemployment lead to increases in community disorganization. This leads to less guardianship, which in turn leads drug users to no longer having to purchase drugs indoors in order to avoid possible police protection.

For Percent Female Headed Households, I predicted that as the percentage of female headed households increase, people who purchase drugs will be less likely to do so in closed-air drug markets. The findings for this variable were as predicted for all but one of the closed-air drug markets. Percent Female Headed Households was not significant for methamphetamine closed-air drug markets.

The findings for marijuana, crack cocaine, powder cocaine, and heroin closed-air drug markets support my research hypotheses. I predicted that as female headed households increase in a city, drug users will be less likely to purchase drugs from closed-air drug markets. I believe this is a result of how high rates of female headed households affect levels of guardianship. I believe increases in female headed households lead to increases in community disorganization. This leads to less guardianship, which in turn leads drug users to no longer having to purchase drugs indoors in order to avoid possible police protection.

For Percent Non-White, I predicted that as the percentage non-white people in a city increase, people who purchase drugs will be less likely to do so in closed-air drug markets. The findings for this variable were as predicted for all but one of the closed-air drug markets. Percent Non-White was not significant for methamphetamine closed-air drug markets.

The findings for marijuana, crack cocaine, powder cocaine, and heroin closed-air drug markets support my research hypotheses. I predicted that as the percentage of non-white people in a city increases, drug users will be less likely to purchase drugs from closed-air drug markets. I believe this is a result of how high rates of non-

white individuals affect levels of guardianship. I believe having an increase in the rates of non-white citizens' leads to increases in community disorganization. This leads to less guardianship, which in turn leads drug users to no longer having to purchase drugs indoors in order to avoid possible police protection.

For Percent Poverty, Percent No High School Degree, Percent Unemployed, Percent Female Headed Households, and Percent Non-White I suggest that communities experiencing high rates of each are more inclined to experience higher rates of community disorganization. This comes from past research that states areas experiencing high levels of poverty, unemployment, female headed households, and non-white citizens; along with low levels of educational attainment, are more likely to experience increased levels of community disorganization. It is believed that disorganization leads to crime via a breakdown in the social controls that are used to help prevent crime (Bursik and Grasmick, 1992).

For Percent Male 15-24, I predicted that as the percentage of males living in a city between the ages of 15 and 24 increases, people who purchase drugs are less likely to do so in closed-air drug markets. The findings for this variable were not as predicted. Percent Male 15-24 actually has an opposite affect on the dependent variables. As Percent Male 15-24 increases, people who buy drugs are more likely to so in closed-air drug markets. While all of the bivariate coefficients are positive, only the coefficients for marijuana and crack cocaine closed-air drug markets are statistically significant.

The direction of this relationship is surprising. Prior to these results, I hypothesized that communities with high numbers of males between the ages of 15 and 24 would be more disorganized and have less issues of community guardianship. I believed this would make drug users less likely to buy drugs from closed-air drug markets. The only explanation I can offer is that in communities that are highly disadvantaged, the majority of males between the ages of 15 and 24 might either be incarcerated or deceased. If this is true, then the remaining males between the ages of 15 and 24 must offer some type of positive guardianship and protection in the community where they live.

In Table 12 there also are varying levels of significance for the individual level indicators of criminality. These variables are: Non-White, No High School Degree, Unemployed, Current Drug Arrest, Past Arrest, No Fixed Residence, and At Risk for Drug Dependency. While not all of the individual level variable coefficients were statistically significant in all closed-air drug markets, all but one of the variables was in the predicted direction.

The coefficients for Past Arrest are not in the predicted direction. I assumed that a past arrest would provide a predictor of future criminality and the unwillingness to purchase drugs from the much safer closed-air drug market. It appears the past arrest of a person has the opposite effect on where individuals go to purchase drugs. While the coefficients for Past Arrest are only statistically significant for marijuana and crack cocaine drug markets, they are positive for each of the five closed-air drug market dependent variables.

The aforementioned individual level independent variables were all meant to be indicators of increased criminality. While the coefficients for Past Arrest were not in the predicted direction, the coefficients for the remaining six indicators of criminality appear to work as predicted. Based on the bivariate findings presented in Table 12, individuals who are non-white, have no high school degree, are unemployed, are facing a current drug arrest, are homeless, or are considered at risk for drug dependency are all people who are less likely to purchase drugs from closed-air drug markets. I believe these types of individuals are more inclined to be criminal and in turn are less fearful of police detection. If this is true, then these people are less likely to purchase drugs indoors in an attempt to avoid police detection.

Table 12: Bivariate Logistic Regressions for Marijuana, Crack Cocaine, Powder Cocaine, Heroin, and Methamphetamine Closed-Air Drug Markets.

	I Marijuana	**II Crack Cocaine**	**III Powder Cocaine**	**IV Heroin**	**V Meth**
% Poverty	-.095**	-.076**	-.056**	-.095**	-.045
	(.898)	(.916)	(.933)	(.919)	(.953)
% No H.S. Degree	-.067**	-.067**	-.052**	-.087**	-.020
	(.921)	(.921)	(.948)	(.925)	(.980)
% Unemployed	-.313**	-.249**	-.189**	-.511**	-.091
	(.708)	(.745)	(.772)	(.619)	(.871)
% Female Headed Households	-.117**	-.093**	-.061**	-.099**	-.031
	(.878)	(.897)	(.926)	(.913)	(.970)
% Non-White	-.026**	-.023**	-.013**	-.026**	-.010
	(.970)	(.973)	(.982)	(.977)	(.990)
% Male Age 15-24	.224**	.333**	.165	.110	.173
	(1.28)	(1.43)	(1.17)	(1.14)	(1.20)
Non-White	-1.03**	-.519**	-.220	-.621**	-.492**
	(.333)	(.504)	(.751)	(.567)	(.577)
No H.S. Degree	-.340**	-.395**	-.113	-.085	-.165
	(.626)	(.612)	(.742)	(.891)	(.755)
Unemployed	-.308**	-.265**	-.128	-.278	-.072
	(.671)	(.730)	(.672)	(.763)	(.990)
Current Drug Arrest	-.707**	-.578**	-.625**	-.746**	-.018
	(.469)	(.528)	(.529)	(.473)	(.891)
Past Arrest	.291**	.491*	.086	.156	.230
	(1.45)	(2.08)	(1.09)	(1.26)	(1.23)
No Fixed Residence	-.254*	-.497**	-.564**	-.048	-.098
	(.807)	(.743)	(.533)	(.940)	(.836)
At Risk for Drug Dependency	-.290**	-.329	-.470*	-.280	-.359
	(.741)	(.733)	(.796)	(.787)	(.549)
Total	6276	3147	1482	1272	1124

* Coefficient is significant at .01 level.
** Coefficient is significant at .001 level.

Multivariate Logistic Regression Analysis

The summary statistics I present within Tables 12 through 17 are: the -2 Log Likelihood, the Nagelkerke R-square, and sample size value. Unlike the R-square value that is computed when conducting OLS regression analysis, there is not an equivalent figure provided when utilizing binary logistic regression. However, there are a few pseudo R-square values that are produced. These are the Cox R-square, the Snell R-square, and the Nagelkerke R-square. The Nagelkerke R-square is an alteration of the Cox and Snell R-square values. This is accomplished by making the value of 1 the maximum possible R-square value. The Nagelkerke R-square value is believed to be a more conventional R-square measurement when compared to the Cox and Snell values (Nagelkerke, 1991).

While the majority of the independent variables displayed varying levels of significance through the bivariate logistic regressions, the problem of colinearity needed to be addressed. I addressed the problem of colinearity among the aggregate independent variables through the creation of the factored variable Community Disadvantage. This variable is represented in hypothesis 7. Creating this variable presents a better understanding of the true relationship between the variables I have used to test the guardianship component of routine activities theory. The findings which include this factored variable are represented in Tables 13 through 17. In these analyses, I have grouped the independent variables into logical categories. These groupings are represented in five separate models presented in tables 13 through 17.

There are a total of five multivariate logistic tables. Tables 13 through 17 are multivariate logistic regression tables consisting of five models containing coefficients for the factored variable Community Disadvantage, Percent Male 15-24, and the seven individual level variables that are indicators of criminality. In tables 13 through 17, Model I contains the factored variable Community Disadvantage. Model II contains Percent Male 15-24. Model III contains the individual variables Non-White, No High School Degree, and Unemployed. Model IV contains the individual variables Current Drug Arrest and Past Arrest. Model V contains the individual variables No Fixed Residence and At Risk for Drug Dependency.

I group these individual level indicators of criminality in this manner due to the belief that they are different in how they predict criminality. For example, in Model III, I include Non-White, No High School Degree, and Unemployed. I argue that these three variables are simply demographic predictors of criminality and are deserved of a separate analysis. In Model IV, I include Current Drug Arrest and Past Arrest. While I believe these two variables are predictors of criminality, I contend they are different than the aforementioned demographic variables. An individual's race, education level, and job status are entirely different than an individual's past and current arrest status. Even though I am using these variables as predictors of the same thing, I argue they are worthy of a separate analysis. Finally, in Model V, I include No Fixed Residence and At Risk for Drug Dependency. I believe these variables are good predictors of potential at-risk behaviors and are entirely different from the demographic and arrest variables previously mentioned. The logic behind this

decision is that while each variable is being used as a predictor of criminality, I believe that each variable predicts criminality in a different manner. Race, educational status, and employment status can affect people from both an individual and structural level. Arrest status has more of an institutional affect on people, where homelessness and drug dependency are very personalized. Thus, while all of these variables are used as predictors of criminality, I believe they predict criminality through different avenues.

Closed-Air Marijuana Drug Markets with Factored Variable

The dependent variable in Table 13 is closed-air marijuana drug markets, or the odds of an individual purchasing marijuana from a closed-air drug market. The coefficients and odds ratios presented in Table 13 provide empirical support for the hypothesized relationships.

Model I includes the Community Disadvantage factored variable. Community Disadvantage is a significant predictor of people being less likely to purchase marijuana from closed-air drug markets. The coefficient for Community Disadvantage is statistically significant and negative. This indicates that as Community Disadvantage increases, individuals who buy marijuana are less likely to do so from closed-air drug markets. For every one unit increase in the Community Disadvantage scale, the odds of a person buying marijuana in a closed-air drug market decreased by .87. The R^2 for Model I is .10.

I add Percent Male 15-24 in Model II. Both Community Disadvantage and Percent Male 15-24 are statistically significant in Model II. The coefficient for

Community Disadvantage is negative and the coefficient for Percent Male 15-24 is positive. This indicates that as Community Disadvantage increases and Percent Male 15-24 decreases, individuals who buy marijuana are less likely to do so from closed-air drug markets. By looking at the odds ratios, I observe for every one unit increase in the Community Disadvantage scale the odds of a person buying marijuana from a closed-air drug market decreased by .87. The odds of an individual purchasing marijuana from a closed-air drug market increased 1.10 times for each one unit increase in Percent Male 15-24. The R^2 for Model II is .11.

In Models III through V, I add in each grouping of the individual level predictors of criminality. Each of these variables is significant throughout Models III, IV, and V.

Model V includes all independent variables. Each variable in Model V is statistically significant. The coefficient for Community Disadvantage is statistically significant and negative. This indicates that as Community Disadvantage increases, individuals who purchase marijuana are less likely to do so from closed-air drug markets. I observe that for every one unit increase in the Community Disadvantage scale the odds of a person buying marijuana from a closed-air drug market decreased by .91.

The coefficient for Percent Male 15-24 is statistically significant and positive. This indicates that as Percent Male 15-24 decreases, individuals who buy marijuana are less likely to do so from closed-air drug markets. The odds of individuals

purchasing marijuana from closed-air drug markets increased 1.11 times for each one-unit increase in Percent Male 15-24.

The coefficients for Non-White, No High School Degree, Unemployed, Current Drug Arrest, No Fixed Residence, and At Risk for Drug Dependency are all statistically significant and negative. These coefficients are all in the predicted direction. The coefficient for Past Arrest is statistically significant and positive. This coefficient is not in the predicted direction.

The findings for Non-White, No High School Degree, Unemployed, Current Drug Arrest, No Fixed Residence, and At Risk for Drug Dependency imply that individuals who are more likely to be criminal are less likely to purchase marijuana from closed-air drug markets. Conversely, the finding for Past Arrest indicates that an individual with a past arrest record is more likely to purchase marijuana from a closed-air drug market. I observe that the odds of an individual purchasing marijuana from a closed-air drug market increased 1.32 times for people with a past arrest record. Model V provides the most explanatory power with an R^2 of .16.

These findings offer support for my hypotheses. When community disadvantage increases, drug users are less likely to purchase marijuana from a closed-air drug market. I believe this is a result of how community disadvantage affects levels of guardianship. As a community becomes more disadvantaged it becomes more disorganized. As disorganization increases, levels of guardianship decrease. When guardianship is low, drug users have less fear of being detected by the police when attempting to purchase marijuana. Thus, when drug users have less

fear of police detection, they will be less likely to go indoors to a less convenient location to purchase marijuana.

The findings for Percent Male 15-24 do not support my hypothesis. Opposite from my prediction, these findings demonstrate when the number of males15 to 24 in a community increase, drug users are more likely to purchase marijuana from a closed-air drug market. My only explanation for this finding is that the numbers of males 15 to 24 must have a positive effect on levels of guardianship. This could be a result of the high rates of incarceration and death for males 15 to 24. If this is true, then the remaining males between the ages of 15 and 24 in a community must be lower risk takers who somehow offer increased levels of guardianship. Regardless of why, the fact is as the number of males 15 to 24 in a community increase, the levels of guardianship also increase. In turn, as guardianship increases, drug users have more fear of police detection and are more likely to go indoors to purchase marijuana.

Almost all of the findings for the individual level predictors of criminality support my hypothesis that as criminality increases, individuals will be less likely to purchase marijuana from a closed-air drug market. The one exception to this is the finding for past arrest record. Individuals with a past arrest record are more likely to purchase marijuana indoors. Having a past arrest record appears to deter drug users from purchasing marijuana on the street and risking possible police detection. Admittedly, this finding was surprising. The remaining variables all indicate that as drug users have an increased likelihood of criminality they become more willing to

take risks and less likely to purchase marijuana in a safer closed-air drug market location.

Table 13: Coefficients and Odds Ratios for Logistic Regression of Marijuana Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage

	I	II	III	IV	V
Community Disadvantage	-.135*** (.874)	-.132*** (.876)	-.103*** (.902)	-.091*** (.913)	-.092*** (.912)
Males 15-24		.100** (1.10)	.112** (1.11)	.110** (1.11)	.108** (1.11)
Non-White			-.731*** (.482)	-.736*** (.479)	-.745*** (.475)
No H.S. Degree			-.253*** (.776)	-.226*** (.798)	-.236*** (.790)
Unemployed			-.254*** (.776)	-.241*** (.786)	-.224*** (.799)
Current Drug Arrest				-.476*** (.621)	-486*** (.615)
Past Arrest				.260*** (1.29)	.278*** (1.32)
No Fixed Residence					-.408*** (.665)
At Risk for Dependency					-.309*** (.734)
Constant	.306	-.445	.191	.114	-.084
- 2 log likelihood	8117.5	8110.9	7923.0	7845.9	7807.1
Nagelkerke R-square	.109	.110	.146	.161	.168
N	6276	6276	6276	6276	6276

* Coefficient is significant at .05 level.
** Coefficient is significant at .01 level.
*** Coefficient is significant at .001 level.

Closed-Air Crack Cocaine Drug Markets with Factored Variable

The dependent variable in Table 14 is closed-air crack cocaine markets, or the odds of an individual purchasing crack cocaine in a closed-air drug market. The coefficients and odds ratios presented in Table 14 provide empirical support for the hypothesized relationships.

Model I includes the Community Disadvantage factored variable. Community Disadvantage is a significant predictor of people being less likely to purchase crack cocaine from a closed-air drug market. The coefficient for Community Disadvantage is statistically significant and negative. This indicates that as levels of Community Disadvantage increase, individuals who buy crack cocaine are less likely to do so in closed-air drug markets. For every one unit increase in the Community Disadvantage scale, the odds of a person buying crack cocaine in a closed-air drug market decreased by .89. The R^2 for Model I is .08.

Percent Male 15-24 is added in Model II. Community Disadvantage and Percent Male 15-24 are both statistically significant in Model II. The coefficient for Community Disadvantage is negative and the coefficient for Percent Male 15-24 is positive. This indicates that as Community Disadvantage increases and Percent Male 15-24 decreases, individuals who buy crack cocaine are less likely to do so from closed-air drug markets. In examining the odds ratios, I observe for every one unit increase in the Community Disadvantage scale the odds of a person buying crack cocaine from a closed-air drug market decreased by .89. The odds of a person

purchasing crack cocaine from a closed-air drug market increased 1.32 times for each one unit increase in Percent Male 15-24. The R^2 for Model II is .09.

I again add in each grouping of the individual level predictors of criminality in Models III through V. All of these variables except At Risk for Drug Dependency are significant throughout Models III, IV, and V.

All of the independent variables are included in Model V. The only variable not significant is At Risk for Drug Dependency. The coefficient for Community Disadvantage is negative and statistically significant. This indicates that as Community Disadvantage increases, individuals who purchase crack cocaine are less likely to do so in closed-air drug markets. I observe that for every one unit increase in the Community Disadvantage scale the odds of a person buying crack cocaine from a closed-air drug market decreased by .91.

The coefficient for Percent Male 15-24 is statistically significant and positive. This indicates that as Percent Male 15-24 decreases, individuals who buy crack cocaine are less likely to do so from closed-air drug markets. The odds of an individual purchasing crack cocaine from a closed-air drug market increased 1.32 times for each one unit increase in Percent Male 15-24.

The coefficients for Non-White, No High School Degree, Unemployed, Current Drug Arrest, and No Fixed Residence are all negative and statistically significant. The coefficients for these variables are in the predicted direction. The coefficient for Past Arrest is positive and statistically significant. The coefficient for Past Arrest is not in the predicted direction.

The findings for Non-White, No High School Degree, Unemployed, Current Drug Arrest, and No Fixed Residence imply that individuals who are more likely to be criminal are less likely to purchase crack cocaine from closed-air drug markets. The finding for Past Arrest indicates that a person with a past arrest record is more likely to purchase crack cocaine from a closed-air drug market. I observe that the odds of an individual purchasing crack cocaine from a closed-air drug market increased 1.69 times for people with a past arrest record. Model V provides the most explanatory power with an R^2 of .14.

These findings offer support for my hypotheses. Throughout all of the models, when community disadvantage increases, drug users are less likely to purchase crack cocaine from a closed-air drug market. I believe this is a result of how community disadvantage affects levels of guardianship. As a community becomes more socially disadvantaged it becomes more disorganized. Then, as levels of disorganization increase, levels of guardianship decrease. When guardianship is low, drug users have less fear of becoming detected by the police when attempting to purchase crack cocaine. Thus, when drug users have less fear of police detection they will be less likely to go indoors to a less convenient location to purchase crack cocaine.

The findings for Percent Male 15-24 do not support my hypothesis. Opposite from my prediction, these findings demonstrate when the numbers of males 15 to 24 in a community increase, drug users are more likely to purchase crack cocaine from a closed-air drug market. Again, my only explanation for this finding is that the

numbers of males 15 to 24 must have a positive effect on levels of guardianship. This could be a result of the high rates of incarceration and death for males 15 to 24. If this is true, then the remaining males between the ages of 15 and 24 in a community must be lower risk takers who somehow offer increased levels of guardianship. Regardless of why, the fact is that as the numbers of males between the ages of 15 and 24 in a community increase, the levels of guardianship also increase. In turn, as guardianship increases, drug users have more fear of police detection and become more likely to go indoors to purchase crack cocaine.

Almost all of the findings for the individual level predictors of criminality support my hypothesis that as criminality increases, individuals will be less likely to purchase crack cocaine from a closed-air drug market. The one exception to this is the finding for past arrest record. Individuals with a past arrest record are more likely to purchase crack cocaine from a closed-air drug market. Having a past arrest record appears to deter drug users from purchasing crack cocaine on the street and risking possible police detection. I was very surprised by this finding. All remaining variables indicate that as drug users have an increased likelihood of criminality they become more willing to take risks and less likely to purchase crack cocaine indoors.

Table 14: Coefficients and Odds Ratios for Logistic Regression of Crack Cocaine Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage

	I	II	III	IV	V
Community Disadvantage	-.117*** (.890)	-.112*** (.894)	-.100*** (.905)	-.090*** (.914)	-.090*** (.914)
Males 15-24		.281*** (1.32)	.285*** (1.33)	.276*** (1.31)	.281*** (1.32)
Non-White			-.435*** (.648)	-.445*** (.641)	-.481*** (.618)
No H.S. Degree			-.323*** (.724)	-.301*** (.740)	-.297*** (.743)
Unemployed			-.283*** (.754)	-.285*** (.752)	-.240** (.786)
Current Drug Arrest				-.434*** (.648)	-.443*** (.642)
Past Arrest				.537*** (1.71)	.528** (1.69)
No Fixed Residence					-.400*** (.670)
At Risk for Dependency					-.170 (.844)
Constant	-.054	-2.15	-1.61	-1.90	-1.99
- 2 log likelihood	4121.5	4095.1	4039.0	3996.9	3977.1
Nagelkerke R-square	.084	.095	.117	.133	.141
N	3147	3147	3147	3147	3147

* Coefficient is significant at .05 level.
** Coefficient is significant at .01 level.
*** Coefficient is significant at .001 level.

Closed-Air Powder Cocaine Drug Markets with Factored Variable

The dependent variable in Table 15 is closed-air powder cocaine markets, or the odds of an individual purchasing powder cocaine in a closed-air drug market. The coefficients and odds ratios presented in Table 15 provide empirical support for the hypothesized relationships.

Model I includes the Community Disadvantage factored variable. Community Disadvantage is a significant predictor of people being less likely to purchase powder cocaine from closed-air drug markets. The coefficient for Community Disadvantage is statistically significant and negative. This indicates that as Community Disadvantage increases, individuals who purchase powder cocaine are less likely to do so in closed-air drug markets. For every one unit increase in the Community Disadvantage scale, the odds of a person buying powder cocaine in a closed-air drug market decreased by .91. The R^2 for Model I is .04.

Unlike the results presented in Tables 13 and 14, Percent Male 15-24 is not statistically significant in any of the remaining models for powder cocaine closed-air drug markets. Furthermore, dissimilar from the results in Tables 13 and 14, the majority of the individual level variables tested on powder cocaine closed-air drug markets are not statistically significant.

Model V includes all independent variables. The coefficient for Community Disadvantage is statistically significant and negative. This indicates that as Community Disadvantage increases, individuals who purchase powder cocaine are less likely to do so in closed-air drug markets. I observe that for every one unit

increase in the Community Disadvantage scale the odds of a person purchasing powder cocaine from a closed-air drug market decreased by .92.

The coefficient for Unemployed is negative and statistically significant. This indicates that an unemployed person is less likely to purchase powder cocaine from closed-air drug markets. The odds of an individual purchasing powder cocaine from a closed-air drug market decreased by .73 when this person is unemployed.

The coefficient for Current Drug Arrest is negative and statistically significant. This indicates that a person who is facing a current drug arrest is less likely to purchase powder cocaine from closed-air drug markets. The odds of an individual purchasing powder cocaine from a closed-air drug market decreased by .59 when facing a current drug arrest.

The coefficient for No Fixed Residence is negative and statistically significant. This indicates that a person who is homeless is less likely to purchase powder cocaine from a closed-air drug market. The odds of an individual purchasing powder cocaine from a closed-air drug market decreased by .48 when homeless. The R^2 for Model V is .09.

These findings support my hypothesis that when community disadvantage increases, drug users are less likely to purchase powder cocaine from a closed-air drug market. Once again, I believe this is because community disadvantage affects levels of guardianship. As a community becomes more socially disadvantaged it also becomes more disorganized. Then, as disorganization increases, levels of community guardianship decrease. When guardianship is low, drug users have less fear of being

detected by the police when attempting to purchase powder cocaine. Thus, when drug users have less fear of police detection they will be less likely to go indoors to a less convenient location to purchase powder cocaine.

The findings for Unemployed, Current Drug Arrest, and No Fixed Residence also partially support my hypothesis that as individual level criminality increases, drug users will be less likely to purchase powder cocaine from closed-air drug markets. Individuals who are unemployed, individuals who are facing a current drug arrest, and individuals who are homeless are all less likely to purchase powder cocaine from closed-air drug markets. I argue that individuals facing these issues have less of a stake in conformity, are less likely to be fearful of police detection, and are less likely to purchase powder cocaine from inconvenient closed-air drug markets.

Table 15: Coefficients and Odds Ratios for Logistic Regression of Powder Cocaine Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage

	I	II	III	IV	V
Community Disadvantage	-.092*** (.912)	-.089*** (.915)	-.085*** (.918)	-.077*** (.926)	-.083*** (.921)
Males 15-24		.105 (1.11)	.087 (1.09)	.076 (1.07)	.051 (1.05)
Non-White			-.060 (.942)	-.064 (.938)	-.121 (.886)
No H.S. Degree			-.199 (.819)	-.212 (.809)	-.232 (.793)
Unemployed			-.368*** (.692)	-.361*** (.697)	-.305** (.737)
Current Drug Arrest				-.523*** (.593)	-.518*** (.596)
Past Arrest				-.016 (.985)	.028 (1.02)
No Fixed Residence					-.733*** (.480)
At Risk for Dependency					-.280 (.756)
Constant	.552	-.242	.169	.421	.451
- 2 log likelihood	1915.6	1913.6	1898.5	1879.6	1856.0
Nagelkerke R-square	.046	.047	.061	.077	.098
N	1482	1482	1482	1482	1482

* Coefficient is significant at .05 level.
** Coefficient is significant at .01 level.
*** Coefficient is significant at .001 level.

Closed-Air Heroin Drug Markets with Factored Variable

The dependent variable in Table 16 is closed-air heroin drug markets, or the odds of an individual purchasing heroin in a closed-air drug market. The coefficients and odds ratios presented in Table 16 provide empirical support for the hypothesized relationships.

Model I includes the Community Disadvantage factored variable. Community Disadvantage is a significant predictor of people being less likely to purchase heroin from closed-air drug markets. The coefficient for Community Disadvantage is negative and statistically significant. This indicates that as Community Disadvantage increases, individuals who purchase heroin are less likely to do so in closed-air drug markets. For every one unit increase in the Community Disadvantage scale, the odds of a person buying heroin in a closed-air drug market decreased by .88. The R^2 for Model I is .06.

Similar to the results presented in Table 15, Percent Male 15-24 is not statistically significant in any of the models for heroin closed-air drug markets. Furthermore, comparable to the results in Table 15, the majority of the individual level variables tested on heroin closed-air drug markets are not statistically significant.

Model V includes all independent variables. The coefficient for Community Disadvantage is statistically significant and negative. This indicates that as Community Disadvantage increases, individuals who purchase heroin are less likely to do so in closed-air drug markets. I observe that for every one unit increase in the

Community Disadvantage scale the odds of a person purchasing heroin from a closed-air drug market decreased by .90.

The coefficient for Non-White is negative and statistically significant. This indicates that a non-white person is less likely to purchase heroin from a closed-air drug market. The odds of an individual purchasing heroin from a closed-air drug market decreased by .73 when this person is non-white.

The coefficient for Unemployed is negative and statistically significant. This indicates that an unemployed person is less likely to purchase heroin from a closed-air drug market. The odds of an individual purchasing heroin from a closed-air drug market decreased by .74 when this person is unemployed.

The coefficient for Current Drug Arrest is negative and statistically significant. This indicates that a person who is facing a current drug arrest is less likely to purchase heroin from a closed-air drug market. The odds of an individual purchasing heroin from a closed-air drug market decreased by .55 when this person is facing a current drug arrest. The R^2 for Model V is .09.

These findings support my hypothesis that when community disadvantage increases, drug users are less likely to purchase powder cocaine from a closed-air drug market. Again, I believe this is because community disadvantage affects levels of guardianship. As a community becomes more socially disadvantaged it becomes more disorganized. Then, as disorganization increases, levels of community guardianship decrease. When guardianship is low, drug users have less fear of being detected by the police when attempting to purchase heroin. Thus, when drug users

have less fear of police detection they will be less likely to go indoors to a inconvenient location to purchase heroin.

The findings for Non-White, Unemployed, and Current Drug Arrest also partially support my hypothesis that as individual level criminality increases, drug users will be less likely to purchase heroin from closed-air drug markets. Individuals who are non-white, unemployed or facing a current drug arrest are all less likely to purchase heroin from closed-air drug markets. I argue that individuals facing these issues have a lessened stake in conformity and are less likely to be fearful of police detection and are less likely to purchase heroin from inconvenient closed-air drug markets.

Table 16: Coefficients and Odds Ratios for Logistic Regression of Heroin Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage

	I	II	III	IV	V
Community Disadvantage	-.120*** (.887)	-.120*** (.887)	-.110*** (.896)	-.091*** (.913)	-.095*** (.909)
Males 15-24		-.010 (.991)	-.003 (.997)	.011 (1.01)	-.007 (.993)
Non-White			-.277* (.758)	-.284* (.753)	-.312* (.732)
No H.S. Degree			.066 (1.06)	.052 (1.05)	.058 (1.06)
Unemployed			-.303* (.739)	-.324** (.723)	-.297* (.743)
Current Drug Arrest				-.579*** (.561)	-.584*** (.557)
Past Arrest				.060 (1.06)	.071 (1.07)
No Fixed Residence					-.285 (.752)
At Risk for Dependency					-.022 (.979)
Constant	-.310	-.238	.024	.090	.253
- 2 log likelihood	1607.7	1607.7	1597.4	1576.2	1573.2
Nagelkerke R-square	.065	.065	.075	.096	.099
N	1272	1272	1272	1272	1272

* Coefficient is significant at .05 level.
** Coefficient is significant at .01 level.
*** Coefficient is significant at .001 level.

Closed-Air Methamphetamine Drug Markets with Factored Variable

The dependent variable in Table 17 is closed-air methamphetamine drug markets, or the odds of an individual purchasing methamphetamine in a closed-air drug market. Unlike the results presented in Tables 13 through 16, the coefficients and odds ratios presented in Table 17 provide very little empirical support for the hypothesized relationships.

The results for closed-air methamphetamine drug markets are dissimilar to those results presented in Tables 13 through 16. In Model V, Non-White is the only variable that is statistically significant. The coefficient for Non-White is negative. This indicates that a non-white individual is less likely to purchase methamphetamine from a closed-air drug market. I observe the odds of an individual purchasing methamphetamine from a closed-air drug market decreased by .62 when this person is non-white. The R^2 for Model V is .02.

These findings do not support my hypotheses that when community disadvantage and levels of criminality increase, drug users are less likely to purchase methamphetamine from a closed-air drug market. I believe this is a result of cultural differences tied to the use and distribution of methamphetamine. Methamphetamine is a popular drug in rural and non-urban communities and is most frequently manufactured in these areas. Because this drug is popular in rural and non-urban areas, I believe the methods of acquiring methamphetamine are much different when compared to the drugs that are more popular in urban areas. If methamphetamine is used and distributed more frequently in rural and non-urban areas, then there is less

opportunity for it to be sold on the street. This is because there is less of a street culture found in rural and non-urban areas. For example, while you often see people in urban areas socializing outdoors on open street corners, you do not see people in rural and non-urban areas socializing in the same manner. Because of these issues, I believe these findings are logical when examining the different cultural dynamics of methamphetamine.

Table 17: Coefficients and Odds Ratios for Logistic Regression of Methamphetamine Closed-Air Drug Markets with Factored Independent Variable: Community Disadvantage

	I	II	III	IV	V
Community Disadvantage	-.063* (.939)	-.062* (.940)	-.042 (.959)	-.040 (.960)	-.040 (.961)
Males 15-24		.181 (1.19)	.160 (1.17)	.160 (1.17)	.160 (1.17)
Non-White			-.464* (.629)	-.467* (.627)	-.464* (.629)
No H.S. Degree			.212 (1.23)	.218 (1.24)	.209 (1.23)
Unemployed			-.038 (.963)	-.036 (.965)	-.026 (.974)
Current Drug Arrest				-.137 (.872)	-.129 (.879)
Past Arrest				.111 (1.11)	.135 (1.14)
No Fixed Residence					-.218 (.804)
At Risk for Dependency					.359 (.698)
Constant	1.58	.236	.519	.458	.125
- 2 log likelihood	947.6	944.5	938.4	937.7	935.7
Nagelkerke R-square	.006	.011	.020	.022	.025
N	1124	1124	1124	1124	1124

* Coefficient is significant at .05 level.
** Coefficient is significant at .01 level.
*** Coefficient is significant at .001 level.

Summary of Multivariate Logistic Regression Results

The multivariate logistic regression results presented in Tables 13 through 17 displays different findings across each of the dependent variables. I observe for marijuana closed-air drug markets that every independent variable is statistically significance. The coefficients for Community Disadvantage are negative and statistically significant. These findings are consistent throughout all five models, and indicate that when Community Disadvantage increases, individuals who purchase marijuana are less likely to do so in closed-air drug markets. These findings support hypothesis 7 which predicts that when levels of community disadvantage in a city increase, individuals who purchase marijuana are less likely to do so from a closed-air drug market.

The coefficients for Percent Male 15-24 are positive and statistically significant. These findings are consistent throughout all five models, and imply that when Percent Male 15-24 increases, individuals who purchase marijuana are more likely to do so in closed-air drug markets. The findings for Percent Male 15-24 are the opposite of what I predicted. These findings do not support hypothesis 6 which predicts that as the Percentage of Males 15-24 in a city increases, individuals who purchase marijuana are less likely to do so from a closed-air drug market.

The coefficients for Non-White are negative and statistically significant. These findings are consistent throughout the three models in which Non-White is included. These findings indicate that a non-white drug user is less likely to purchase marijuana in a closed-air drug market.

The coefficients for No High School Degree are negative and statistically significant and are consistent throughout the three models in which No High School Degree is included. These findings imply that a person who does not have a high school degree is less likely to purchase marijuana from a closed-air drug market.

The coefficients for Unemployed are negative and statistically significant and are consistent throughout the three models in which Unemployed is included. These findings indicate that an unemployed person is less likely to purchase marijuana from a closed-air drug market.

The coefficients for Current Drug Arrest are statistically significant and negative. These findings are consistent throughout the two models in which Current Drug Arrest is included and indicate that a person who is facing a current drug arrest is less likely to purchase marijuana from a closed-air drug market.

The coefficients for Past Arrest are statistically significant and positive and are consistent throughout the two models in which Past Arrest is included. These findings indicate that a person with a past arrest record is more likely to purchase marijuana from a closed-air drug market. The findings for Past Arrest are the opposite of what I predicted.

The coefficient for No Fixed Residence is negative and statistically significant. This variable is only included in Model V. This finding indicates that a person who is homeless is less likely to purchase marijuana from a closed-air drug market.

The coefficient for At Risk for Drug Dependency is negative and statistically significant. This variable is only included in Model V. This finding implies that a person who is considered at risk for drug dependency is less likely to purchase marijuana from a closed-air drug market.

The variables representing Non-White, No High School Degree, Unemployed, Current Drug Arrest, Past Arrest, No Fixed Residence, and At Risk for Drug Dependency are all used as indicators of increased criminality. These variables are represented in hypothesis 8. This hypothesis predicts that as individual criminality increases, individuals who purchase marijuana are less likely to do so from a closed-air drug market. The findings for Non-White, No High School Degree, Unemployed, Current Drug Arrest, No Fixed Residence, and At Risk for Drug Dependency all support hypothesis 8. Only the results for Past Arrest do not support this hypothesis.

I observe for crack cocaine closed-air drug markets that all but one of the independent variables display varying levels of significance. This variable is At Risk for Drug Dependency. The coefficients for Community Disadvantage are negative and statistically significant. These findings are consistent throughout all five models and signify that when Community Disadvantage increases individuals who purchase crack cocaine are less likely to do so in closed-air drug markets. These findings support hypothesis 7. This hypothesis predicts that when city levels of community disadvantage increase, individuals who purchase crack cocaine are less likely to do so from a closed-air drug market.

The coefficients for Percent Male 15-24 are positive and statistically significant. These findings are consistent throughout all five models and suggest when Percent Male 15-24 increases; individuals who purchase crack cocaine are more likely to do so in closed-air drug markets. The findings for Percent Male 15-24 are the opposite of what I predicted in hypothesis 6. This hypothesis predicts that as the Percentage of Males 15-24 in a city increases, individuals who purchase crack cocaine are less likely to do so from a closed-air drug market.

The coefficients for Non-White are negative and statistically significant. These findings are consistent throughout the three models in which Non-White is included and indicate that a non-white drug user is less likely to purchase crack cocaine in a closed-air drug market.

The coefficients for No High School Degree are statistically significant and negative. These findings are consistent throughout the three models in which No High School Degree is included. This is an indication that a person who does not have a high school degree is less likely to purchase crack cocaine from a closed-air drug market.

The coefficients for Unemployed are negative and statistically significant. These findings are consistent throughout the three models in which Unemployed is included. These findings indicate that a person who is unemployed is less likely to purchase crack cocaine from a closed-air drug market.

The coefficients for Current Drug Arrest are statistically significant and negative. These findings are consistent throughout the two models in which Current

Drug Arrest is included and indicate that a person who is facing a current drug arrest is less likely to purchase crack cocaine from a closed-air drug market.

The coefficients for Past Arrest are positive and statistically significant. These findings are consistent throughout the two models in which Past Arrest is included. The findings for Past Arrest are the opposite of what I predicted and suggest that a person with a past arrest record is more likely to purchase crack cocaine from a closed-air drug market.

The coefficient for No Fixed Residence is negative and statistically significant. This variable is only included in Model V. This finding indicates that a person who is homeless is less likely to purchase crack cocaine from a closed-air drug market.

The variables representing Non-White, No High School Degree, Unemployed, Current Drug Arrest, Past Arrest, and No Fixed Residence are all used as indicators of criminality. These variables are represented in hypothesis 8. This hypothesis predicts that as individual criminality increases, individuals who purchase crack cocaine are less likely to do so from a closed-air drug market. The findings for Non-White, No High School Degree, Unemployed, Current Drug Arrest, and No Fixed Residence all support this hypothesis. Only the results for Past Arrest do not support hypothesis 8.

I observe for powder cocaine closed-air drug markets that the independent variables Community Disadvantage, Unemployed, Current Drug Arrest, and No Fixed Residence each display varying levels of statistical significance. The coefficients for Percent Male 15-24, Non-White, No High School Degree, Past Arrest

and At Risk for Drug Dependency were not statistically significant in any of the models.

The coefficients for Community Disadvantage are statistically significant throughout all five models and suggest that when Community Disadvantage increases, individuals who purchase powder cocaine are less likely to do so in closed-air drug markets. Hypothesis 7 is supported by these findings. This hypothesis predicts that when levels of community disadvantage in a city decrease, individuals who purchase powder cocaine are less likely to do so in a closed-air drug market.

The coefficients for Unemployed are negative and statistically significant. These findings are consistent throughout the three models in which Unemployed is included and indicate that a person who is unemployed is less likely to purchase powder cocaine from a closed-air drug market.

The coefficients for Current Drug Arrest are statistically significant and negative. These findings are consistent throughout the two models in which Current Drug Arrest is included and suggest that a person who is facing a current drug arrest is less likely to purchase powder cocaine from a closed-air drug market.

The coefficient for No Fixed Residence is negative and statistically significant. This variable is only included in Model V. This finding indicates that a person who is homeless is less likely to purchase powder cocaine from a closed-air drug market.

The variables representing Unemployed, Current Drug Arrest, and No Fixed Residence are used as indicators of criminality. These variables are represented in

hypothesis 8. This hypothesis predicts that as individual criminality increases, individuals who purchase powder cocaine are less likely to do so from a closed-air drug market. The findings for Unemployed, Current Drug Arrest, and No Fixed Residence all support hypothesis 8.

I observe for heroin closed-air drug markets that the independent variables Community Disadvantage, Non-White, Unemployed, and Current Drug Arrest each display varying levels of statistical significance. The coefficients for Percent Male 15-24, No High School Degree, Past Arrest, No Fixed Residence, and At Risk for Drug Dependency were not statistically significant in any of the models.

The coefficients for Community Disadvantage are negative and statistically significant. These findings are consistent throughout all five models. This indicates that when Community Disadvantage increases, individuals who purchase heroin are less likely to do so in closed-air drug markets and supports hypothesis 7. This hypothesis predicts that when levels of community disadvantage in a city decrease, individuals who purchase heroin are less likely to do so from a closed-air drug market.

The coefficients for Non-White are statistically significant and negative. These findings are consistent throughout the three models in which Non-White is included and suggest that a non-white drug user is less likely to purchase heroin in a closed-air drug market.

The coefficients for Unemployed are statistically significant and negative. Consistent throughout the three models in which Unemployed is included, these

findings indicate that a person who is unemployed is less likely to purchase heroin from closed-air drug market.

The coefficients for Current Drug Arrest are negative and statistically significant. These findings are consistent throughout the two models in which Current Drug Arrest is included and suggest that a person who is facing a current drug arrest is less likely to purchase heroin from a closed-air drug market.

The variables representing Non-White, Unemployed, and Current Drug Arrest are used as indicators of criminality. These variables are represented in hypothesis 8. This hypothesis predicts that as individual criminality increases, individuals who purchase heroin are less likely to do so in a closed-air drug market. The findings for Non-White, Unemployed, and Current Drug Arrest all support hypothesis 8.

I observe for methamphetamine closed-air drug markets that the independent variable Non-White displays varying levels of statistical significance. The coefficients for Community Disadvantage, Percent Male 15-24, No High School Degree, Unemployed, Current Drug Arrest, Past Arrest, No Fixed Residence, and At Risk for Drug Dependency were not statistically significant in any of the models.

The coefficients for Non-White are negative and statistically significant. Consistent throughout the three models in which Non-White is included, these findings indicate that a non-white drug user is less likely to purchase methamphetamine in a closed-air drug market.

The variable representing Non-White is used as an indicator of criminality. This variable represents hypothesis 8 and predicts that as individual criminality

increases, individuals who purchase methamphetamine are less likely to do so from a closed-air drug market. The findings for Non-White lend little support to hypothesis 8.

This finding is unlike the results for marijuana, crack cocaine, powder cocaine, and heroin closed-air drug markets. I believe this finding is a result of the methamphetamine drug market setting being different than the settings for marijuana, crack cocaine, powder cocaine, and heroin. Methamphetamine is a newer drug when compared to marijuana, crack cocaine, powder cocaine, and heroin. It is also a drug that is typically manufactured and sold in residential dwellings. These differences make for a different culture of people who are involved with methamphetamine. It appears the model of street level drug distribution does not apply to methamphetamine. Methamphetamine is typically found in the southwest United States. It is also more frequently manufactured and distributed by poor, white, non-urban individuals. I argue that because the people who are most likely to be involved with methamphetamine are poor, white, non-urban individuals, this drug will more likely be sold in a closed-air market.

Chapter VI

Discussion and Conclusion

The goal of this dissertation was to examine why individuals who purchase drugs are less likely to do so in closed-air drug markets. Closed-air drug markets provide a safer location for drug users to purchase drugs. This increased safety is a result of indoor drug markets being out of the direct line of street violence and being out of sight from the police. If closed-air drug markets are safer, then what makes drug users less likely to purchase drugs indoors?

I created hypotheses aimed at explaining why drug users are less likely to purchase drugs from closed-air drug markets. I based these hypotheses on the idea of guardianship. Guardianship is an important condition of routine activities theory. I predicted that as levels of guardianship decrease, drug users would be less likely to purchase drugs indoors. Guardianship was operationalized by measuring community disadvantage. High levels of community disadvantage were thought to be related to low levels of guardianship. If this is true, then with reduced levels of guardianship, drug users have fewer reasons to fear possible police detection and can choose to purchase drugs from a more convenient outdoor location. I predicted that high levels of community disadvantage would be associated with a lower likelihood of drug users purchasing drugs from a closed-air drug market.

I also used individual level variables as indicators of criminality. These variables were indicators of non-white, no high school degree, unemployment, current drug arrest, past arrest, no fixed residence, and being at risk for drug

dependency. I argued that individual criminality is important when attempting to better understand why drug users are less likely to purchase drugs from a closed-air drug market. When people are more criminally inclined, they have less fear of police detection and more willingness to take risks. A person with less fear of police detection and more willingness to take risks will be less likely to be affected by levels of guardianship. Thus, I predicted that the more likely people are to be criminal, the less likely they are to purchase drugs indoors.

In my bivariate logistic regressions, I addressed the hypotheses for poverty, no high school degree, unemployment, female headed households, non-white, males between the ages of 15 and 24, and individual criminality. Hypothesis 1 predicted that as the percentage of poverty increased in a city, individuals who purchased drugs would be less likely to do so from a closed-air drug market. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this hypothesis. This hypothesis was not supported for methamphetamine. These findings indicated that as poverty in a city increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine, or heroin from closed-air drug markets.

Hypothesis 2 predicted that as the percentage of people living in a city without a high school degree increased, individuals who purchased drugs would be less likely to do so from a closed-air drug market. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this hypothesis. This hypothesis was not supported for methamphetamine. These findings suggested that as the percentage of people living in a city without a high school degree increased, drug users would be

less likely to purchase marijuana, crack cocaine, powder cocaine, or heroin from closed-air drug markets.

Hypothesis 3 predicted that as the percentage of unemployed people living in a city increased, individuals who purchased drugs would be less likely to do so from a closed-air drug market. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this hypothesis. This hypothesis was not supported for methamphetamine. These findings implied that as the percentage of unemployed people living in a city increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine, or heroin from closed-air drug markets.

Hypothesis 4 predicted that as the percentage of female headed households in a city increased, individuals who purchased drugs would be less likely to do so from a closed-air drug market. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this hypothesis. This hypothesis was not supported for methamphetamine. These findings indicated that as the percentage of unemployed people living in a city increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine, or heroin from closed-air drug markets.

Hypothesis 5 predicted that as the percentage of non-white people living in a city increased, individuals who purchased drugs would be less likely to do so from a closed-air drug market. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this hypothesis. This hypothesis was not supported for methamphetamine. These findings indicated that as the percentage of non-white

people living in a city increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine, or heroin from closed-air drug markets.

Hypothesis 6 predicted that as the percentage of males between the ages of 15 and 24 living in a city increased, individuals who purchased drugs would be less likely to do so from a closed-air drug market. These results do not support this hypothesis. This variable is only statistically significant in marijuana and crack cocaine closed-air drug markets and these coefficients are not in the predicted direction. These findings suggested that as the percentage of males between the ages of 15 and 24 living in a city increased, drug user became more likely to buy marijuana and crack cocaine from closed-air drug markets. I believe this is a result of the high incarceration and death rates for males between the ages of 15 and 24. If this is true, then the males between the ages of 15 and 24 who remain in a city must provide some type of increased guardianship. This guardianship must make drug users more likely to avoid police detection and choose to purchase drugs indoors.

Hypothesis 8 predicted that as criminality increased, individuals who purchased drugs would be less likely to do so from closed-air drug markets. I used indicators of non-white, no high school degree, unemployment, current drug arrest, past arrest, no fixed residence, and at risk for drug dependency as predictors of criminality. The results for marijuana, crack cocaine, powder cocaine, or heroin supported this hypothesis. This hypothesis was not supported for methamphetamine. These findings indicated that as criminality increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine, and heroin from closed-air

drug markets. Indicators of non-white, current drug arrest, and non fixed residence were the most consistently significant. Non-white was the only variable that was significant for methamphetamine closed-air drug markets. This suggested that non-white drug users are less likely to purchase methamphetamine form closed-air drug markets.

Before conducting the multivariate logistic regressions, I addressed the issue of colinearity among my aggregate independent variables. This led to the creation of the Community Disadvantage factored variable. Community disadvantage is represented in hypothesis 7. This hypothesis states that as community disadvantage increases, individuals who purchase drugs will be less likely to do so in closed-air drug markets.

In my multivariate logistic regression analyses I address the hypotheses for community disadvantage and criminality. Hypothesis 7 predicted that as community disadvantage increased, individuals who purchased drugs would be less likely to do so from closed-air drug markets. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this hypothesis. This hypothesis is not supported for methamphetamine. These findings indicated that as community disadvantage increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine or heroin from closed-air drug markets.

Hypothesis 8 predicted that as criminality increased, individuals who purchased drugs would be less likely to do so from closed-air drug markets. The results for marijuana, crack cocaine, powder cocaine, and heroin supported this

hypothesis. This hypothesis was not supported for methamphetamine. These findings indicated that as criminality increased, drug users would be less likely to purchase marijuana, crack cocaine, powder cocaine, or heroin from closed-air drug markets. Indicators of non-white, unemployed, and current drug arrest were the most consistently significant. Non-white was the only variable that was significant for methamphetamine closed-air drug markets. This suggested that non-white drug users are less likely to purchase methamphetamine form closed-air drug markets.

All of the findings for marijuana, crack cocaine, powder cocaine, and heroin supported my hypotheses. There is no support for my hypotheses when examining methamphetamine closed-air drug markets. Based on these findings, I argue that as levels of community disadvantage and criminality increase, the effects of guardianship decrease. Thus, as the effects of guardianship decrease, drug users become less likely to purchase marijuana, crack cocaine, powder cocaine, and heroin indoors.

Conclusion

In this dissertation I developed a set of hypotheses that measured what makes drug users less likely to purchase drugs indoors. My findings offer a number of explanations as to why certain drug users are less likely to buy drugs indoors. I recognize the presence of the ecological fallacy - I am using structural level data to explain individual level behaviors. Despite the dilemma of the ecological fallacy, I believe these findings are still important and provide a unique first-time examination of closed-air drug markets.

This research provided a number of interesting findings. I provided support to the condition of guardianship as outlined in routine activities theory. It is stated in routine activities theory that in order for a crime to occur there must be a lack of guardianship. I argued that increased levels of community disadvantage would reduce levels of guardianship and that when guardianship was reduced drug users would be less likely to fear police detection and less likely to buy drugs indoors. With the exception of methamphetamine closed-air drug markets, my findings support this argument.

This research also supports the idea that criminality reduces the effects of guardianship. I argued that the more likely a person is to be criminal the less likely they are to be concerned about potential police detection. I believed that the more criminally inclined a drug user was the less likely they were to go to the trouble of buying drugs indoors. With the exception of methamphetamine closed-air drug markets, my findings support this belief.

The results for two of my independent variables were very interesting. The findings for the percentage of males between the ages of 15 and 25, and past arrest were not in the predicted direction. These results indicated that as the percentage of males between the ages of 15 and 24 living in a city increased, drug users are more likely to buy drugs indoors. Surprisingly, males between the ages of 15 and 24 have a positive affect on guardianship. These results also suggested that a drug user with a past arrest record is more likely to purchase drugs indoors. For drug users, there must

be a deterrent effect related to past arrest. I believe that both of these findings are worthy of further investigation.

The results for methamphetamine closed-air drug markets are also very interesting. These findings demonstrate that methamphetamine drug markets are different from marijuana, crack cocaine, powder cocaine, and heroin drug markets. I believe this is a product of the culture tied to methamphetamine drug use. Methamphetamine is a popular drug primarily among poor, white, rural individuals. This is very different compared to those people who use marijuana, crack cocaine, powder cocaine, and heroin. Those drugs are more equal opportunity drugs in the sense that they are popular among a much wider demographic. Because methamphetamine is culturally different, these findings are not surprising. However, this is the first official documentation of these differences and I believe this fact is something that makes these findings an important addition to the literature.

Future Research

This research only begins to answer the questions of what determines where drug users go to purchase drugs. These findings indicate that more research should be conducted on this topic. Despite the fact this research is the first of its kind; there are important issues that need to be addressed in the future.

First, more research should be conducted on the intra-city and inter-city differences that exist among drug market locations. There are certain differences found throughout each city in this study that cannot be examined through aggregate level data. For example, even though New York City and Oklahoma City are both

considered urban communities, there are extreme differences found within each of these communities. One difference is population density. New York City is a densely populated city with thousands of people moving about in very small areas. Oklahoma City is very spread out and people can move about without having to encounter large numbers of people. Drug users in a densely populated city process the decision of where to purchase drugs much differently than drug users in cities that are less densely populated.

If a drug user is forced to buy drugs in a densely populated area this person must make calculations regarding guardianship and detection that drug users in less densely populated cities do not have to make. In other words, because there are more people in an area, does a drug user see that as an increased deterrent or increased opportunity?

The same can be said for drug users in less densely populated areas. If a drug user living in Oklahoma City is looking to purchase drugs, the context of the city in which they live affects the decision making process. For example, if people living in Oklahoma City are looking to purchase drugs they might have an easier time doing so from an outdoor drug market simply because there are less people around to provide guardianship. Drug users in communities such as Oklahoma City may have an easier time identifying potential drug dealers from non-drug dealers. This could simply be because the fewer the people there are on the streets, the easier it is to identify who belongs in particular areas and who does not belong. Furthermore, if it is easier to

identify who belongs in an area and who does not, this might make avoiding police detection easier for those people who live in less densely populated areas.

I suggest that further research is needed to address both the qualitative and quantitative dynamics found throughout these cities. There are certain issues that cannot be address without examining them on a macro disaggregate level. It would be beneficial to further examine these issues on a more micro interpersonal level.

Second, I would like to approach my structural level variables from a more disaggregated level. This could be accomplished by analyzing the data for poverty, no high school degree, unemployment, female headed households, non-white, and males 15-24 at the zip code level instead of at the community level. The ADAM data I used for this research has an indicator for the residential zip code of the arrestee. Census data could be matched by zip code to each individual arrestee. While this would not fully address the ecological fallacy, it would allow for a more disaggregate analysis of these research questions.

In closing, I would like to note that while the findings from this research are interesting, I would like to address many of these issues from an individual level. I would like to go directly to the people involved and find out what affects the decisions they make regarding where they buy drugs. This decision cannot be addressed simply through quantitative analysis. I understand it might be very difficult and dangerous to directly access these people, but if we ever hope to better understand these issues I do not see another option.

References

Atkyns, R.L. and G.J. Hanneman., (1974). "Illicit Drug Distribution and Dealer Communication Behavior." Journal of Health and Social Behavior. 15: 36-43.

Ball, J.C. (1965). "Two Patterns of Narcotic Drug Addiction in the United States." Journal of Criminology and Police Science 56: 203-221.

Blumstein, Alfred. (1995). "Youth Violence, Guns and the Illicit-Drug Industry." Journal of Criminal Law and Criminology 86: 10-36**.**

Brown, G.F., and L. Silverman, (1974). The Retail Price of Heroin: Estimation and Applications." Journal of the American Statistical Association 69: 585-606

Brownstein, Henry H., Susan M. Crimmins, and Barry J. Spunt., (1999) "Prior Involvement with Drugs, Guns, Groups, and Illegal Activities among Sample of Young Homicide Offenders." National Institute of Justice Research in Brief.

Buerger, M.E., (1992). "Defensive Strategies of the Street-Level Drug Trade." Journal of Crime and Justice. 15: 31-51.

Butler, J.S. and C. Herring. (1981) "Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-Employment." Sociology Perspectives 34:79-94.

Byers, Bryan D. and Benjamin W. Crider., (2002). "Hate Crimes Against the Amish: A Qualitative Analysis of Bias Motivation Using Routine Activities Theory." Deviant Behavior. 23: 115-148.

Carey, J. (1968). The Drug Scene. Englewood Cliffs, NJ.: Prentice Hall.

Cohen, Jacqueline, Daniel Cork, John Engberg, and George Tita (1998). "The Role of Drug Markets and Gangs in Local Homicide Rates." Homicide Studies 2: 241-261.

Cohen, Lawrence, E. and Marcus Felson. (1979). "Social Change and Crime Rate Trends: A Routine Activities Approach." American Sociological Review 44: 588-608.

Cohn, Ellen C., and James Rotton., (2003). "Even Criminals Take a Holiday: Instrumental and Expressive Crimes on Major and Minor Holidays." Journal of Criminal Justice. 31: 351-360.

Cooney, Mark. (1997). “The Decline of Elite Homicide.” Criminology 35: 381-407

Cork, Daniel. (1999). “Examining Space-Time Interaction in City-Level Homicide Data: Crack Markets and the Diffusion of Guns Among Youth.” Journal of Quantitative Criminology 15: 379-406.

DeMaris, Alfred. 1992. *Logit Modeling: Practical Applications*. Newbury Park, CA: Sage Publications.

DeMaris, Alfred. 1995. “A Tutorial in Logistic Regression.” *Journal of Marriage and the Family* 57:956-968.

Fagan, Jeffrey., (1989) “The Social Organization of Drug Use and Drug Dealing Among Urban Gangs.” Criminology 27:633-663.

Fagan, Jeffrey. (1990). "Intoxication and Aggression.", Crime and Justice, Volume 13: Drugs and Crime, edited by Michael Tonry and James Q. Wilson, Chicago, University of Chicago Press. 241-320.

Fagan, Jeffrey., (1992) “Drug Selling and Light Income in Distressed Neighborhoods: The Economic Lives of Street-Level Drug Users and Dealers.” Pp 99-143 in Adele V. Harrell and George E. Peterson (eds.), Drugs, Crime, and Social Isolation: Barriers to Urban Opportunity. Washington DC: Urban Institute Press.

Felson, Marcus. (1987). “Routine Activities and Crime Prevention in the Developing Metropolis.” Criminology. 25: 911-931.

Felson, Marcus (2002). Crime and Everyday Life. 3rd edition. Thousand Oaks, CA. Sage Publications.

Fisher, Bonnie S., John J. Sloan, Francis T. Cullen, and Chunmeng Lu. (1998). “Crime in the Ivory Tower: The Level and Sources of Student Victimization.” Criminology. 36: 671-709.

Goldstein, Paul J. (1985). “The Drugs/Violence Nexus: A Tripartite Conceptual Framework.” Journal of Drug Issues 14: 493-506.

Goldstein, Paul J, Henry H. Brownstein, Patrick J. Ryan, and Patricia A. Bellucci, (1989). “Crack and Homicide in New York City, 1988: A Conceptually Based Event Analysis.” Contemporary Drug Problems 16: 651-687.

Goldstein, Paul J, Henry H. Brownstein, Patrick J. Ryan, and Patricia A. Bellucci, (1997). "Crack and Homicide in New York City: A Case Study in the Epidemiology of Violence.", Crack in America: Demon Drugs and Social Justice, edited by Craig Reinarman and Harry G. Levine. Berkeley: University of California Press. 113-130.

Hagedorn, John M., (1994) "Neighborhoods, Markets, and Gang Drug Organization." Journal of Research in Crime and Delinquency 31:264-294.

Hagedorn, John M., (1994) "Homeboys, Dope Fiends, Legits and New Jacks." Criminology 32:197-219.

Hamid, Ansley., (1992) "Drugs and Patterns of Opportunity in the Inner City: The Case of Middle-Aged, Middle Income Cocaine Smokers." Pp 209-239 in Adele V. Harrell and George E. Peterson (eds.), Drugs, Crime, and Social Isolation: Barriers to Urban Opportunity. Washington DC: Urban Institute Press.

Hill, Christopher M. (2004). "An Analysis of Juvenile Justice Decision Making and Its Effect on Disproportionate Minority Contact." Dissertation. University of Oklahoma.

Horney, Julie, D. Wayne Osgood, and Ineke Haen Marshall (1995). "Criminal Careers in the Short-Term: Intra-Individual Variability in Crime and Its Relation to Local Life Circumstances." American Sociological Review 60: 655-673.

Johnson, B.D., and M. Natarajan., (1995). "Strategies to Avoid Arrest: Crack Sellers Response to Intensified Policing." American Journal of Police. 14: 3/4 49-69.

Jonas, Steven. (1999). "Why the Drug War Will Never End, The Drug Legalization Debate," edited by James A.Inciardi, Thousand Oaks, CA: Sage. 125-150.

LaGrange, Teresa, C. (1999). "The Impact of Neighborhoods, Schools, and Malls on the Spatial Distribution of Property Damage." Journal of Research in Crime and Delinquency. 36: 393-422.

Lizotte, Alan J, Marvin D. Krohn, James C. Howell, Kimberly Tobin, and Gregory J. Howard, (2000). "Factors Influencing Gun Carrying Among Young Urban Males Over the Adolescent-Young Adult Life Course." Criminology 38: 811-934.

MacCoun, Robert J, Beau Kilmer, and Peter Reuter, (2003). "Research on Drugs-Crime Linkages: The Next Generation.", http://www.ojp .usdoj.gov/nij /drugscrime/194616 .htm. September 2003, Toward a Drugs and Crime Research Agenda for the 21st Century.

Menard, Scott. 1995. *Applied Logistic Regression Analysis*. Thousand Oaks, CA: Sage Publications.

Messner, Steven F. and Judith R. Blau. (1987). "Routine Leisure Activities and Rates of Crime: A Macro-Level Analysis." Social Forces. 65: 1035-1052.

Messner, Steven F., and Reid M. Golden, (1992). "Racial Inequality and Racially Disaggregated Homicide Rates: An Assessment of Alternative Theoretical Explanations." Criminology 30: 421-447.

Mieczkowski, T., (1986). "Geeking Up and Throwing Down: Heroin Street Life in Detroit." Criminology 24:645-666.

Mieczkowski, T., (1990). "Crack Distribution in Detroit." Contemporary Drug Problems. 17: 9-30.

Miethe, Terance D., Mark C. Stafford, and J. Scott Long. (1987). "Social Differentiation in Criminal Victimization: A Test of Routine Activities/Lifestyles Theories." American Sociological Review. 52: 184-194.

Miethe, Terance D. and David McDowall. (1993). "Contextual Effects in Models of Criminal Victimization." Social Forces. 71: 741-759.

Monteforte, J. R., and W. U. Spitz, (1975). "Narcotic Abuse Among Homicides in Detroit" Journal of Forensic Sciences 20: 186-190.

Mustaine, Elizabeth Ehrhardt, and Richard Tewksbury. (1998). "Predicting Risks of Larceny Theft Victimization: A Routine Activity Analysis Using Refined Lifestyle Measures." Criminology. 36: 829-857.

Mustaine, Elizabeth Ehrhardt, and Richard Tewksbury. (2000). "Comparing The Lifestyles of Victims, Offenders, and Victim-Offenders: A Routine Activity Theory Assessment of Similarities and Differences for Criminal Incident Participants." Sociological Focus. 33: 339-360.

Nagelkerke, N. J. D. 1991. "A Note on a General Definition of the Coefficient of Determination. *Biometrika* 78:691-692.

Natarajan, Mangai., Ronald V. Clarke, and Mathieu Belanger., (1996) "Drug Dealing and Pay Phones: The Scope for Intervention." Security Journal 7: 245-251.

Nielsen, Amie L. and Ramiro Martinez Jr. (2003). "Reassessing the Alcohol-Violence Linkage: Results for a Multiethnic City." Justice Quarterly. 20: 445-469.

Osgood, D Wayne, Janet K. Wilson, Patrick O'Malley, Jerald G. Bachman, and Lloyd D. Johnston, (1996). "Routine Activities and Individual Behavior." American Sociological Review 61: 635-655.

Osgood, D. Wayne, and Amy L. Anderson (2004). "Unstructured Socializing and Rates of Delinquency." Criminology. 42: 519-550.

Ousey, Graham C. (1999). "Homicide, Structural Factors and the Racial Invariance Assumption." Criminology 37: 405-426.

Ousey, Graham C. (2000a). "Deindustrialization, Female-Headed Families and Black and White Juvenile Homicide Rates, 1970-1990." Sociological Inquiry 70: 391-419.

Ousey, Graham C. (2000b). "Explaining Regional and Urban Variation in Crime: A Review of Research.", Criminal Justice 2000, Volume 1, The Nature of Crime: Continuity and Change, edited by Gary LaFree. Washington, DC: National Institute of Justice. 261-308.

Ousey, Graham C., and Michelle Campbell Augustine, (2001). "Young Guns: Examining Alternative Explanations of Juvenile Firearm Homicide Rates." Criminology 39: 933-968.

Ousey, Graham C., and Matthew R. Lee, (2002). "Examining the Conditional Nature of the Illicit Drug Market-Homicide Relationship: A Partial Test of the Theory of Contingent Causation." Criminology 40: 73-102.

Ousey, Graham C., and Matthew R. Lee, (2004). "Investigating the Connections Between Race, Illicit Drug Markets and Violence, 1984-1997." Journal of Research in Crime and Delinquency 41: 352-383.

Parker, Karen F., and Patricia L. McCall, (1999). "Structural Conditions and Racial Homicide Patterns: A Look at the Multiple Disadvantages in Urban Areas." Criminology 37: 447-477.

Parker, Karen F., and Matthew V. Pruitt, (2000). "How the West Was One: Explaining the Similarities in Race-Specific Homicide Rates in the West and South." Social Forces 78: 1483-1508.

Pattillo, Mary E. (1998). "Sweet Mothers and Gangbangers: Managing Crime in a Black Middle-Class Neighborhood." Social Forces 76: 747-774.

Power, R., A. Green, R. Foster, G. Stimson., (1995). "A Qualitative Study on the Purchasing and Distribution Patterns of Cocaine and Crack Users in England and Wales." Addiction Research. 2: 363-379.

Riley, Jack K. (1998). "Homicide and Drugs." Homicide Studies 2: 176-205.

Roncek, Dennis W. and Pamela A. Maier (1991) "Bars, Blocks, and Crimes Revisited: Linking the Theory of Routine Activities to the Empiricism of Hot Spots." Criminology. 29: 725-745.

Rotton, James and Ellen C. Cohn., (2003). "Global Warming and U.S. Crime Rates: An Application of Routine Activities Theory." Environment and Behavior. 35: 802-825.

Rountree, Pamela Wilcox and Kenneth C. Land. (1996). "Burglary Victimization, Perceptions of Crime Risk, and Routine Activities: A Multilevel Analysis Across Seattle Neighborhoods and Census Tracts." Journal of Research in Crime and Delinquency. 33: 147-180.

Spano, Richard and Steve Nagy. (2005). "Social Guardianship and Social Isolation: An Application of Lifestyle/Routine Activities Theory to Rural Adolescents." Rural Sociology. 70: 414-437.

Stahura, John M. and John J. Sloan., (1988). "Urban Stratification of Places, Routine Activities, and Suburban Crime Rates." Social Forces. 66: 1102-1118.

Swope, Ross E., (2001). "Constructively Developed Analytical Crime Mapping Approaches." Police Journal. 74: 42-49.

Taylor, Bruce, Nora Fitzgerald, Dana Hunt, Judy A. Reardon, and Henry H. Brownstein., (2001) "ADAM Preliminary Findings on Drug Use and Drug Markets: Adult Male Arrestees." National Institute of Justice Research in Brief NCJ189101.

Van Nostrand, Lise-Marie, and Richard Tewksbury., (1999) "The motives and Mechanics of Operating an Illegal Drug Enterprise." Deviant Behavior: An Interdisciplinary Journal 20: 57-83.

Walker, Jeffery T., James W. Golden, and Amy C. VanHouten., (2001). The Geographic Link Between Sex Offenders and Potential Victims: A Routine Activities Approach." Justice Research and Policy. 3: 15-33.

Wang, John Z. (2002). "Bank Robberies by an Asian Gang: An Assessment of the Routine Activities Theory." International Journal of Offender Therapy and Comparative Criminology. 46: 555-568.

Weisburd, D., and L. Green., (1995). "Policing Drug Hot Spots: The Jersey City Drug Market Analysis Department." Justice Quarterly. 4: 711-735.

Wilson, William Julius., When Work Disappears: The World of the New Urban Poor. (1996). 1st edition. Random House. New York.

White, Helene Raskin., and D.M. Gorman, (2000). "Dynamics of the Drug-Crime Relationship." Criminal Justice 2000, Volume 1, The Nature of Crime: Continuity and Change. Washington, DC: National Institute of Justice. 151-218.

Zahn, Margaret A., and M. Bencivengo, (1974). "Violent Death: A Comparison Between Drug Users and Non-drug Users." Addictive Diseases 1: 283-296.