2019

Factors Affecting Juvenile Drug Use in Medellín, Colombia

Kendall Miller

FACTORS AFFECTING JUVENILE DRUG USE IN MEDELLÍN, COLOMBIA

A Capstone Project Presented in Partial Fulfillment

of the Requirements for the Degree Bachelor of Science with

Honors College Graduate Distinction at

Western Kentucky University

By

Kendall L. Miller

May 2019

*****

CE/T Committee:

Dr. Holli Drummond

Dr. John Dizgun

Ms. Susan Davis

I would like to dedicate this thesis project to my loving family for their endless support and encouragement over the past four years. I would also like to dedicate this work to my friends for being the accountability partners I needed throughout this process.

ACKNOWLEDGEMENTS

Firstly, I would like to offer an earnest thank you to the faculty members dedicated to this project, Dr. Holli Drummond, Dr. Dizgun, and Ms. Davis. Through your support, knowledge, and instruction this thesis project was made possible. I cannot adequately express my appreciation for your help along the way.

I would also like to extend my thanks to Dr. John Faine for contributing his expertise in statistics and for assisting in the analytic approach to this project. I would like to thank Hannah Powers from Newport, Kentucky's Department of Public Advocacy for being a mentor and friend to me, for expanding my knowledge of the criminal justice system, for sparking my curiosity about the consequences juvenile drug use, and for instilling in me a passion to serve. I truly appreciate everything you taught me.

I would like to acknowledge my parents, Mark and Michelle Miller, for always pushing me to explore the world around me and to follow my dreams. Thank you for supporting me in all aspects of life and for encouraging me to give one hundred percent of myself to everything that I do. I would like to extend gratitude to my sister, Devan Miller, for inspiring me to work hard for what I believe in and for being the epitome of diligence and dedication. Thank you, as well, to my friends who have supported me throughout this entire process and who have accompanied me on many sleepless nights. I am honored to know such a **b**right, **h**ard-working **g**roup of people.

ABSTRACT

Evidence shows that peer pressure is a strong indicator of juvenile substance use. Oetting and Beauvais (1986) determined that the Peer Cluster Theory was a common phenomenon in which adolescents tend to share the same opinions on substance use as their friends do, namely that juveniles who had friends that abused substances were likely to abuse substances themselves. The present study sought to determine if this phenomenon was true for adolescents in Medellín, Columbia. Data was collected on participants' demographics, their opinions of their community, their relationship to their families and friends, how they spend their time each week, and their use of drugs. It was hypothesized that peer pressure (negative peer influence) would be the strongest predictor of juvenile substance use. In a multi-variate regression model, the strongest factors affecting juvenile substance abuse were age, parental monitoring, street code, time spent home alone, time spent with friends, and time spent participating in an organized sport or other after school activity $F(14,1214) = 39.136$, $p = .000$. Based on these results, it appears that peer influence follows an opportunity process rather than the normative/socialization route more commonly theorized in the literature. While this finding fails to accept the null hypothesis in this study, the outcome does support findings from Haynie and Osgood (2005) and their focus on peer influence as channeled through opportunity.

Keywords: juvenile, juvenile drug use, peer pressure, peer influence, Social Learning Theory, Peer Cluster Theory

VITA

EDUCATION

Western Kentucky University, Bowling Green KY — December 2019
B.S. in Psychological Sciences – Mahurin Honors College Graduate
Honors Capstone: *Factors Affecting Juvenile Drug Use in Medellín, Columbia*

Harlaxton College, Grantham England — 2016
Beechwood High School, Fort Mitchell, KY — May 2015

PROFESSIONAL EXPERIENCE

Department of Public Advocacy, Newport, KY — May 2018 – Aug. 2018
Alternative Sentencing Intern

HONORS AND AWARDS

Spirit Makes the Master Scholarship, May 2015
WorldTopper Scholarship, Aug. 2016
49th Annual WKU Student Research Conference Session Winner, March 2019

PROFESSIONAL MEMBERSHIPS

Psi Chi Honors Society
Rho Lambda National Sorority Leadership Society

PRESENTATIONS

Miller, K. L. (2019, March). *The Effectiveness of Juvenile Drug Courts on Reducing Recidivism: A Meta-analysis of Research from 1993-2018*. Poster session presented at the annual WKU REACH Conference, Bowling Green, KY.

FIELDS OF STUDY

Major Field: Psychological Sciences
Minor Field: Criminolgy

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

Juvenile drug use causes a wide range of complications from risk of physical injury and disease to strained familial relationships (Crowe and Bilchik, 1998). Studies have shown that increased drug use decreases adolescents' realizations of the harmful effects of substances, including cognitive impairment (Ngai, Cheung, & Ng, 2018). Various studies have been aimed at analyzing the proper ways to combat juvenile drug use such as juvenile drug courts, the first of which was established in Key West Florida in 1993 (American University, 2001).

However, before one can begin to take aim at stopping juvenile drug use, there must be an understanding of the factors that affect and encourage substance use. Pro-drug attitudes among family members has been linked to increased drug and alcohol use in adolescents (Zapolski, Clifton, Banks, Hershberger, & Aalsma, 2018). Children of low-income families have been shown to experience higher rates of drug use and lower rates of school engagement (Voison, Elsaesser, Kim, Patel, & Cantara, 2016). Other factors affecting juvenile drug use include religious involvement, participation in afterschool activities (including sports teams), and general education. However, the most influential factor affecting juvenile drug use is peer influence (Oetting and Beauvais, 1986).

Adolescents gain their knowledge of recreational drugs mainly through their friends when compared to other resources such as media and relatives (Usman, Atif, Pervaiz, Muhmamad, Satti, & Bukhari, 2017.) Additionally, adolescents blame peer influence on their inability to stop their use of substances (Usman et al., 2017). Peer pressure is a strong predictor of juvenile drug use when compared to other factors such as leisure boredom (Hendricks, Savahl, & Florence, 2015). When studying the use of

marijuana by youths, Butters (2004) found that low peer drug use and high personal disapproval caused a reduction in the use of the drug by juveniles.

The present study is aimed at exploring the factors affecting juvenile substance use in a disadvantaged neighborhood of Medellín, Columbia, known as *San* Javier. The city itself is known for its history of drug cartel and guerilla group presence, with such activity located in *San Javier* and other underprivileged neighborhoods. Information was collected on various aspects of life for 1,229 adolescents in the area. Data on family, school, community, and personal life was accumulated and analyzed to determine what issues adolescents faced that affected their use of substances. Specifically, this study's purpose was to determine the effects of peer pressure on juvenile drug use in Medellín. It was hypothesized that peer pressure would have the greatest effect on juvenile drug use among youths in the community. This existing body of work will add to the current literature by exploring more closely the factors affecting a low-income city such as Medellín. It will explore the relationship between peer pressure and juvenile drug use in a developing country where the current literature is lacking in such respect.

LITERATURE REVIEW

Issues Related to Juvenile Drug Use

According to Crowe and Bilchik (1998), a survey conducted by the American Correctional Association, the Institute for Behavior and Health, Inc., and The American Probation and Parole Association found that persistent juvenile drug users experience a range of difficulties associated with their usage such as struggles with academics, physical and mental health problems, and poor relationships with peers & family

members. Substance use can cause behavioral problems and poor academic performance (Bureau of Justice Statistics, 1992). Juveniles may be less committed to academics if they are focused on using or abusing drugs and alcohol. Health-wise, teenage substance abuse can have serious implications. Research shows that in 1993, 91 U.S. teens died as a result of their drug usage (Office of Applied Studies, 1994). The transmission of AIDS and HIV is common among those using unsterile drug-injection paraphernalia which can cause an array of complications. The National Highway Traffic Safety Administration (1997) noted than in 1995, more than 2,000 juveniles were killed in alcohol-related accidents. As stated previously, teen drug users often experience comorbid mental health disorders such as depression, conduct disorders, personality disorders, and attempted or completed suicide (Crowe & Bilchik, 1998). Alienation and stigmatization by peers are common experiences for juvenile drug users and usage can cause juveniles to withdrawal from extracurricular activities further ostracizing them from their classmates. Juvenile drug use can also cause a serious burden on the families of these youth, resulting in dysfunction and disorder.

Another major problem caused by juvenile drug use is the youths' continued involvement with the delinquency and court system. It is no surprise that substance abuse is linked to delinquency and those that repeatedly use drugs or alcohol have a high chance of eventually ending up in the court system. But even more so, drug abuse can increase the likelihood of violent crimes, such as robbery, occurring among youths (Crowe & Bilchik, 1998).

Prior Research

There are many factors that affect the use of drugs by adolescents. In their 2012 study, Tolou-Shams, Hadley, Conrad, and Brown examined how the role of families affected juvenile drug use in the United States. They recruited adolescents from a juvenile drug court with 82 parent-child pairs in total. Using a self-report Family Assessment Device and multiple questionnaires, Tolou-Shams et al. collected information on parenting style, parental involvement, and adolescent substance use behaviors. They found that a more prevalent use of marijuana by adolescents was reportedly associated with a more negative parent-child relationship, including greater parental permissiveness and less family affective responsiveness (Tolou-Shams et al., 2012). They also found that more positive and open communication between parents and their children resulted in less marijuana use. In comparison, Ruprah, Sierra, and Sutton (2017) collected data on 13-17-year-old students from 15 Latin American countries to determine the effects of engaged parenting (i.e. how knowledgeable parents were about their child's problems and whereabouts) on various delinquent and high-risk behavior. Using the Global School-based Student Health Survey, found that there is a statistically significant reduction in juvenile drug use when the adolescent's parents were engaged for all but two countries (for Barbados and Suriname there were no statistically significant results) (Ruprah, et al., 2017).

Jang (2019) performed a study in the United States to determine whether religiosity (religious involvement) affected drug use and whether there was an association between the initial value and the rate of change among these factors. He followed 1,354 adjudicated juveniles and adults from two county court systems in Arizona and

Pennsylvania. Results yielded that religiosity and drug use had an inverse relationship and those who held religion as an important part of their lives were likely to decrease their marijuana usage quickly and increase their usage slowly (if initially using). Jang also found that those involved with religion were more likely to desist from crime because they showed an increase in impulse control and a decrease in aggression (2019).

Similarly, Moulin-Stożek, de Irla, Beltramo, and Osario (2018) conducted a study in Peru and El Salvador focusing on the ways in which adolescents spent their leisure time and how this affects other aspects of their lives. They analyzed self-report surveys from 6,085 secondary school students and tested the relationship between religious identification, practice, and salience as well as prosocial and risky behaviors. Comparable to Jang's (2019) results, Moulin-Stożek et al. (2018) found that any sort of religious involvement deterred adolescents from participating in most types of risky behavior. They found in El Salvador, religiously involved teens evaded drinking and smoking while in Peru, adolescents evaded smoking, drinking, and using illicit drugs.

However, Oetting and Beauvais (1986) discovered that the greatest influence on drug use was peer influence. They claimed that peer groups contributed to high positive correlation with the encouragement of drug use and high negative correlation with sanctions against using drugs. In their 1985 study, Oetting and Beauvais found that 95% of the predictable variance in drug use was attributed to peer influence. In a phenomenon they coined the "peer cluster theory" (1986), Oetting and Beauvis found that adolescents were likely to have the same opinions of drug use as their friends do. This is also in line with the more commonly known theory of social learning. Edwin Sutherland's (1947) differential association theory (a part of the social learning theory) to describe how group

membership and associations impacted one's behaviors, values, and attitudes. Using analytic induction (Matsueda, 1998), Sutherland hypothesized and found that peer influence had the greatest effect on one's life when peer interactions occurred frequently and early in life.

In 1993, Dinges and Oetting used a nationwide survey study administered to 113,289 junior and senior high school students in the United States to test if there were similar drug use patterns among friends. Their survey tested what they considered the "five most common illicit drugs" (1993): marijuana, uppers, downers, cocaine, and PCP. Dinges and Oetting prompted participants to record their recent drug use as well as answer questions assessing their friends' drug use. Their results showed that 97.5% of those who use marijuana also have friends who use marijuana. Overall, 90% of adolescent drug users reported also having friends who use the same drug(s) as they do. A similar study conducted by Horner, Gorgan-Kaylor, Delva, Bares, Andrade, and Castillo (2011) in Chile concluded that peer substance use was positively correlated with an increase in drug use. Horner et al. (2011) found that peer drug use was linked to an increase in alcohol consumption as well as cigarette and marijuana use.

In their 2015 study, Hendricks, Savahl, and Florence evaluated the effects of both leisure boredom and peer pressure on juvenile drug use. Using nonprobability sampling, they selected 291 16-18 year olds from two low-income communities in Cape Town, South Africa to participate in their study. They utilized the Drug Use Disorders Identification Test, the Resistance to Peer Influence Measure, and the Leisure Boredom scale to determine whether or not purposeful free time spent in an unstimulating or unsatisfying manner (i.e. leisure boredom) and peer pressure had any effect on juvenile

drug use among participants. They found that both variables were strong predictors of substance abuse; however, when compared, peer pressure was found to be the stronger predictor.

Similarly, Haynie and Osgood (2005) used the National Longitudinal Survey of Adolescent Health to collect a representative sample of students in grades seven through twelve from 132 schools in the United States. Information was collected via in-school and in-home surveys between 1995 and 1996. The survey allowed for respondents to nominate ten friends (five male and five female) to also complete the questionnaire in order to understand the habits of the respondent's peer network. Questions were centered around the respondent's delinquent habits and various social control variables such as peer attachment, parental attachment, parental supervision, and importance of religion. Their results yielded that time spent with friends in unstructured social settings was conducive to delinquency whether or not those peers were delinquent themselves.

Medellín, Columbia

Given its unique history, Medellín provides an interesting setting for the study of juvenile drug use. Home city of the infamous drug lord, Pablo Escobar, Medellín came to be known for its high crime rates and the prevalence of a drug cartel. Escobar controlled much of the cocaine market in the 1980s and soon earned himself the title of *Forbes*' seventh richest man in the world in 1989 (Meade, 2009). His reputation notwithstanding, Escobar was hailed as a Robin Hood-like hero by a majority the poor of Medellín. He established social security systems for the unemployed, developed a migrant shelter where poor migrants could seek medical attention, gave resources and even money to poor neighborhoods, and performed many other charitable acts during his time

(Pobutsky, 2013). This good Samaritan work was all to cover up his criminal proceedings which eventually lead to his death in 1993 by s special force of US Navy Seals and the Columbian military.

Pablo Escobar's death did not bring peace to the city of Medellín, however. In the wake of his violence and destruction, the government began a counter-offense which then triggered a violent response from guerrilla groups and cartel members within Columbia. Although there was a rise in violent crime throughout Columbia during this time, the city of Medellín saw the worst of it with 55,365 homicides recorded between 1990 and 2002 (Drummond et al, 2012). However, in May of 2002, military and police efforts were enacted to take back control of the city in an operation referred to as *Operación Orión* (Drummond et al., 2012). Finally, police were able to maintain a physical presence within the community and security increased greatly (Demarest, 2011).

Medellín began rebuilding and establishing a better community to make up for its violent past. One-third of government funds were devoted to building new schools, libraries, parks, and recreational spaces. The MetroCable system was created to connect the main city center to more isolated parts of the area, making jobs more accessible (Drummond et al., 2012). Medellín has taken advantage of its darker past and "narco-heritage", establishing memorials and museums which generate revenue for the town, making it somewhat of a tourist destination (Naef, 2018). Medellín, Colombia evolved from being "the most violent to the most innovative" (Naef, 2016) by reaping the benefits of its infamy.

Present Focus

The present research study takes inspiration from Drummond, et al.'s 2009 survey project of adolescents living in the *San Javier* neighborhood within Medellín, Columbia. Using their data, the current study evaluates the impact of peer pressure. To determine the strength of the peer measure, other factors related to juvenile drug use were included in the analyses. It was hypothesized that peer pressure would yield the most significant results in predicting juvenile drug use.

METHODS

Participants and Survey Method

While the original sample included 1,475 adolescent residents from Communa 13 (representative of about 60% of all students), 1,229 sixth to 12th grader students had completed data for all variables included in the study. Specifically, the participants were surveyed at three communa public schools after parental and participant consent was given. The 130-question examined various aspects of their home, school, and neighborhood life among comuna adolescents. For the purpose of this study, information was collected on participants' demographic information, their positive sense of community, the street code within their community, neighborhood safety, participants' perception of discipline, rules, and monitoring within their household, negative peer influence, and drug use as explained below.

Measures

Demographic Information

To understand variation in demographic experience, the study included measures for gender (0=male; 1=female), age (range=10-18), and length of time in the comuna.

The last variable measured residence instability as 0=5 years or more, 1=4 years, 2=3 years, 3=2 years, 4=1 year and 5= less than one year.

Positive Sense of Community

Four items were used to construct the scale of a positive sense of community. These items asked about the availability of community members (i.e. friends or family) who support and care for the participant, if the respondent had friends who knew they could depend on the subject, and whether the youth would feel sad to move away from the community. These items were summed to form a continuous scale which ranged from 0-4 with higher scores indicating a more positive perception of community support (alpha = .635).

Street Code

Eight items were used to construct the scale of the code of the streets (Anderson, 1999). These items gauged adolescent perception about the prevalence of deviant beliefs within the community. Questions included in this scale asked respondents to agree (0) or disagree (1) to statements such as, “If you don’t carry a knife or gun in my neighborhood, something bad might happen to you.,” “Kids who are in a gang get respect from other kids in my neighborhood.,” and “If someone starts a fight with me, I am going to finish it.” The street code scale ranged from 0-8, with higher scores indicating a greater perception of deviant beliefs at the community level (alpha = .624)

Safety

Three items were used to construct a community safety scale. These items asked the participant how much of the time they feel unsafe in their neighborhood, on their way to school, and while attending school. These items had a scale of 0 (never) to 4 (all the

time). The range for this scale was 0-9, with higher scores representing more community safety concerns (alpha = .496).

Discipline

Three items were used to construct a scale of parental discipline. For this study, incidences of **positive discipline** were included so that two of the three items were reverse coded. These questions asked about scenarios where the subject did something that they were not allowed to do or that their family did not like and what their family's response was in handling those situations (i.e. were they scolded, spanked, or did their families calmly discuss what happened). The response categories for these items were 0 (no) to 1 (yes) with a scale range of 0-3, with higher scores indicating more positive discipline (alpha = .462).

Rules

Three items were used to construct a scale of parental rules. These items asked whether the respondent's families had rules in place pertaining to drinking alcohol, using drugs, or fighting/hitting people. Participants responded no (coded 0) or yes (coded 1) to these items and the scale ranged from 0-3 with higher score indicating more parental rules (alpha = .635)

Monitoring

Four items were used to construct a scale of parental monitoring. Some questions inquired if parents knew the participant's friends or where the participant was after school (no = 0; yes = 1) while other questions asked how much their parents knew of their whereabouts (0=not at all; 1=some; 2=they know a lot). The parental monitoring

scale ranged from 0-6 with higher scores indicating more parental monitoring (alpha = .553).

Negative Peer Influence

Six items were used to construct a scale of negative peer influence within the neighborhood. These items asked how many of the participant's friends (almost none=1; some=2; most of them=3) think the participant is a "punk" if they don't drink alcohol, do drugs, carry a weapon, want to fight, etc. This scale ranged from 0-6 with higher scores indicating more negative peer pressure (alpha = .821)

Time Spent

Four items were included in the analysis which captures how participants spend their time. First, the respondent was asked how many hours per week he or she spent involved in organized sports, clubs, or other afterschool activities. Then, the participant was asked how many hours each week he or she spent at a paid job. In addition, the subject was also asked how many hours per week they spent alone at home. Finally, the respondent was asked many hours per week they spent hanging out with their friends in an unsupervised setting. Each question allowed respondents to acknowledge never spending time on these activities (coded 0), spending 1-5 hours (coded 1), 6-10 hours (coded 2), 11-20 hours (coded 3) or greater than 20 hours (coded 4).

Drug Use

Eight items were used to construct a scale of drug use by participants, the dependent variable for the present study. These items inquired about the participant's use of cigarettes, alcohol, marijuana, and cocaine. For each substance, participants were asked if they had ever used (0=no; 1=yes) and how much they had used in the last 30

days (0=no; 1=yes just once; 2=yes more than once). The drug use scale ranges from 0-12 (alpha = .761).

RESULTS

Demographics

The results (Table 1) showed that the participants' range of age was from ten to twenty with the average age being roughly 14 (13.96; SD = 1.82). Additionally, there was a slightly higher percentage of female participants at 54.4% than male participants at 45.6%. Regarding residential stability, 73% had lived in the communa 5 years or longer, 13% 3-4 years, 9.5% 1-2 years, and only 4.5% for less than a year. There were several significant correlations between these participant characteristics and other variables (Table 2). For example, there is a significant negative relationship between age and resident stability (-.089) which simply confirms that older youth have a longer tenure in the neighborhood. There was also a negative relationship between age and monitoring (-.094), and safety (-.083) reported, meaning younger participants were more monitored by their parents and feel safer in the neighborhood than older participants. However, there is a significant positive correlation between age and discipline (.144), time spent home alone (.095), and drug usage (.264). This means older participants experienced a heavier disciplinary presence within their household and spent more time at home alone. Older participants were also more likely to partake in drug use than were younger participants. With regards to participants' gender, it was found that male participants had a more positive sense of their community and a greater perception of the street code being a neighborhood norm than did female participants. Additionally, male participants reported a greater impact of negative peer influence when compared to females. Male participants

spent more time at a paid job and in unsupervised settings with friends and reported greater drug use than females. It was found that females had spent less time in the neighborhood than males but feel safer in the community. Additionally, female participants reported more parental support via rules and monitoring than their male counterparts. Residential stability had a significant negative correlation with a positive sense of community (-.069), negative peer influence (-.087), time spent home alone (-.066), and drug usage (-.072). These results confirmed that those who have a longer tenure in the neighborhood had a more positive view of their community and were more affected by negative peer influence. Additionally, those who have spent more time in their neighborhood also reported spending more time at home alone and were more likely to partake in drug use.

Table 1. Demographic Information

	Range	**Mean**	**Standard Deviation**
Age	10 - 20	13.96	1.82
Length of Time in Neighborhood	0-5 (years)	4.21	1.48
Sex	45.6% **Female**	54.4% **Male**	

Positive Sense of Community

Participants' positive sense of their community is significantly correlated with multiple factors (Table 2). There is was a significant negative relationship between participants' positive sense of community and safety (-.097), negative peer influence (-.081), and monitoring (-.060). This indicates that those who reported a more positive few of their community felt less safe in their neighborhood and were less affected by negative

peer influence. Additionally, those with a more positive view of their community reported less parental support through monitoring. On the other hand, there is a significant positive correlation between participants' positive sense of community and street code (.100), time spent with friends (.112), and drug usage (.087). This indicated that the more positively participants viewed their community, the more they accepted the street code as a neighborhood norm, the more time they spent with friends, and the more likely they were to use drugs

Discipline

With regards to a disciplinary presence in participants' households, there several significant correlations between such and other factors (Table 2). There is a significant negative correlation between discipline and safety (-.139), street code (-.146), negative peer influence (-.097), time spent home alone (-.061), and drug usage (-.080). This means that those who reported a greater disciplinary presence felt less safe in their neighborhoods and were less affected by the code of the streets and negative peer influence. These participants were also less likely to spend time alone at home and were less likely to use drugs. There is a significant positive correlation between discipline and age (.144), rules (.073), monitoring (.162), and time spent involved with organized sports, etc. (0.68). This means that those who reported a stronger disciplinary presence were older and experienced more parental support through monitoring and rules within their household. They also tended to spend more time involved with organized sports and other activities.

Rules

There is a significant negative correlation between subjects' household rules and street code (-.115) and between household rules and drug usage (-.131) (Table 2). These results confirmed that participants who reported more household rules were less likely to accept the code of the streets and were less likely to participate in drug use. There was a significant positive correlation between household rules and monitoring (.154), and time spent involved with organized sports, etc. (.099). This means those who reported more household rules also reported more parental monitoring and were more likely to be involved with organized sports and other after school activities.

Monitoring

There was a significant negative correlation between monitoring and street code (-.318), time spent at home alone (-.117), time spent with friends (-.224), and drug usage (-.408). Expectedly, participants reported that the more their parents were aware of their whereabouts, the less likely they were to accept street code as the neighborhood norm and the less time they spent at home alone or with friends. Additionally, the more aware parents were of their children's lives, they less likely those adolescents were to use drugs. There was a significant positive correlation between monitoring and time spent involved with organized sports, etc. (.139), confirming that participants who were more closely monitored by their parents were also more likely to participate in organized sports and other after school activities.

Safety

There was a significant negative correlation between community safety and time spent with friends (-.065). This means that those who reported feeling safer in their neighborhood spent less time unmonitored with their friends. There was a significant

positive correlation between safety within the community and negative peer influence (.116). This means that participants who reported feeling safe in the neighborhood were more likely to be affected by negative peer influence.

Street Code

There is a significant negative correlation between street code and sex (-.201), discipline (-.146), household rules (-.115), and monitoring (-.318). There was also a significant negative correlation between street code and time spent involved with organized sports, etc. (-.121). Mentioned above, street code is significantly positively correlated with a positive sense of community (.100). There is also a significant positive correlation between street code and negative peer influence (.123), time spent home alone (.104), time spent with friends (.159), and drug usage (.334).

Negative Peer Influence

There is a significant negative correlation between negative peer influence and residential stability (-.087), a positive sense of community (-.081), and discipline (-.097). There is a significant positive correlation between negative peer influence and street code (.123) and safety (.116). These results indicate that those who were more affected by negative peer influence, were more likely to accept the code of the streets as the neighborhood norm and felt safer in their neighborhood. There is also a significant positive correlation between negative peer influence and drug use (.076), meaning those affected by negative peer influence were more likely to use drugs.

Time Spent

In regards to how participants spend their time, there was a significant positive correlation between time spent at a paid job and time spent with friends (.103) and time

spent involved with organized sports and other after school activities (.064). These results confirmed that those who spent more time at a paid job spent more time alone with friends and involved in organized sports or other after school activities. There was a significant positive correlation between time spent home alone and time with friends (.114) and drug usage (.217). Meaning that those who spent more time home alone spent more time with friends and were more likely to use drugs. Time spent with friends was significantly negatively correlated with safety within the community (-.065) and parental monitoring (-.224), meaning those who reported spending more time with their friends felt less safe in their neighborhood and were not well monitored by their parents. There was a significant positive correlation between time spent with friends and drug usage (.212), street code (.159), a positive sense of community (.112), time spent home alone (.114), and time spent at a paid job (.103). These results confirmed that those who spent more time with their friends were more likely to be drug users, accept street code as a neighborhood norm, and have a more positive sense of their community. Additionally, they were more likely to spent time at home alone and at a paid job.

Drug Use

There is a significant negative correlation between drug use and parental monitoring (-.408), household rules (-.131), discipline (-.080), and residential stability (-.072). These results illustrated that those who were more often using drugs experienced less parental involvement (through monitoring, household rules, and discipline). Additionally, those who spend less time in the neighborhood were less involved with drug use. There is a significant positive correlation between drug use and street code (.334), age (.264), time spent home alone (.217), time spent with friends (.212), a positive

sense of community (.087), and negative peer influence (.076). These results showed that those who used drugs were more accepting of the code of the streets and spent more time at home alone and with friends. The results also indicated that older participants were more likely to be involved in drug use. Additionally, the participants who reported a greater drug usage had a more positive sense of their community and were more impacted by negative peer influence.

Table 2. Correlations

	1. Age	2. Gender	3. Res. Stability	4. Discipline	5. Rules	6. Mon.	7. Pos. Sense of Comm.	8. Safety	9. Street Code	10. Neg. Peer Infl.	11. Job	12. Home Alone	13. Friends	14. Sport	15. Drugs
1															
2	.021														
3	-.089**	.067*													
4	.144**	-.036	.016												
5	-.038	.067*	.009	.073*											
6	-.094**	.100**	.023	.162**	.154**										
7	.005	-.066*	-.069*	.007	-.002	-.060*									
8	-.083*	.092**	-.020	-.139**	.046	-.004	-.097*								
9	-.022	-.201**	-.029	-.146**	-.115**	-.318**	.100**	0.42							
10	.005	-.098**	-.087**	-.097**	-.035	-.037	-.081**	.116	.123**						
11	.047	-.166**	-.041	-.010	.001	-.052	.022	-.009	.040	.055					
12	.095**	-.031	-.066*	-.061*	-.016	-.117**	.005	.015	.104**	.035	.029				
13	-.041	-.268**	-.037	-.006	-.027	-.224**	.112**	-.065*	.159**	.020	.103**	.114**			

14	.023	.046	.081**	.068*	.099**	.139**	.006	.021	-.121**	.027	.064*	.036	-.004		
15	.264**	-.114**	-.072*	-.080**	-.131**	-.408**	.087**	.005	.334**	.076**	.050	.217**	.212**	-.129**	

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

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

Linear Regression Analysis

While 12 of 14 study variables were significantly associated with adolescent drug use, the study's hypothesis requires that impact of peer pressure be understood visa vie all other variables. This necessitates multivariate analysis (Table 3). The variables with the most protective influence on adolescent drug use were time spent at a paid job, participant's gender, residential stability, household discipline, participant's sense of safety in their neighborhood, negative peer influence, a positive sense of the community, and household rules. The variables most associated with the risk of drug use are as follows: age, parental monitoring, street code, time spent home alone, time spent with friends, and time spent participating in an organized sport or other after school activity $F(14,1214) = 39.136$, $p = .000$. The overall portion of variance in adolescent drug use as explained by the variables in the model was 31%.

Based on these results, the greatest protective variable on adolescent drug use in *San Javier* was time spent at a paid job. This means that of each variable analyzed, time spent at a paid job was the most influential factor in determining participants' unlikeliness to use drugs. On the other hand, the variable most associated with the risk of adolescent drug use was participants' age, meaning that age was the greatest predictor of drug use. The hypothesis stated negative peer influence (peer pressure) would have the greatest risk on adolescent drug use; however, the linear regression model indicated that this was not the case.

Table 3. Regression Coefficients

	Unstandardized Coefficients		**Standardized Coefficients**		
Model	**B**	**Standard Error**	**Beta**	**t**	**Sig.**
(Constant)	1.675	.446		3.755	.000

Age	.332	.034	.241	9.747	.000
Gender	-.045	.128	-.009	-.349	.727
Residential Stability	-.022	.042	-.013	-.525	.600
Discipline	-.063	.074	-.021	-.856	.392
Rules	-.125	.069	-.044	-1.826	.068
Monitoring	-.432	.044	-.257	-9.739	.000
Poss. Sense of Comm.	.086	.051	.041	1.690	.091
Safety	.033	.035	.023	.930	.353
Street Code	.253	.033	.198	7.578	.000
Neg. Peer Influence	.028	.022	.031	1.266	.206
Job	.013	.126	.003	.104	.917
Home Alone	.320	.060	.129	5.289	.000
Friends	.219	.051	.110	4.275	.000
Sports	-.239	.079	-.074	-3.019	.003

DISCUSSION

The null hypothesis for this study stated that out of each factor or independent variable analyzed, peer pressure (defined as negative peer influence) would have the strongest correlation with adolescent drug use. The work performed by Oetting and Beauvis (1986) provided a vantage point for this hypothesis. Their peer cluster theory indicated that "peer encouragement" to engage in drug use was most significantly correlated with drug use (p. 19). Hendricks et al. (2015) also reported that peer pressure was a strong predictor of juvenile substance use, further providing evidence for the conception of this hypothesis. Additionally, Haynie and Osgood's

(2005) research indicated that time spent with friends in unstructured social settings contributed to the likelihood of adolescent drug use.

The linear regression analysis demonstrated strong relationships between the dependent variable of drug use and the independent variables of age, parental monitoring, street code, time spent home alone, time spent with friends, and time spent participating in an organized sport or other after school activity. With this information, it was determined that these independent variables are stronger at predicting juvenile drug use than are the other independent variables such as gender, residential stability, discipline, household rules, a positive sense of community, safety, time spent at a paid job, and negative peer influence. Unfortunately, the "peer pressure" variable did not perform as expected and thus, we must fail to accept the null hypothesis that stated peer pressure would be the strongest predictor of juvenile drug use in Medellín, Colombia.

Although it was determined that the null hypothesis be rejected, there is evidence to indicate support for Haynie and Osgood's 2005 study on the role of peer influence and time spent with peers as an opportunity for delinquency. Their results yielded support for both hypotheses proving that peer influence and unstructured socialization affect the likelihood of juvenile delinquency. However, Haynie and Osgood (2005) found that spending time with friends in unstructured social settings was conducive to delinquency whether or not those peers were delinquent themselves. In other words, they demonstrated how non-negative peers can still influence the probability of delinquency through situational opportunities in which kids are hanging out together in unsupervised settings. The outcome of the present study supports Haynie and Osgood's findings in that results showed time spent with friends was positively related to drug use, even when additional variables are added to the model. Further research would lend itself to exploring and enhancing these results.

One limitation that must be acknowledged is the use of self-report surveys for the data collection. Self-reported information can suffer from issues of selective memory in which the individual reporting incorrectly remembers or does not remember an event that occurred in the past. This study may have also had issues with exaggeration in self-reported data, meaning participants may have embellished their answers or over reported certain behaviors or factors that were being collected. The present study may have benefitted from stronger data collection methods. Additionally, it is noted that this sample is representative of 60% of the population which is a relatively high percentage; however, this study could have been enhanced by taking the time to collect information on a more representative sample. This research relied on a convenience sampling method and could be improved upon by using other more, more reliable methods.

Time was also a major constraint to the present research. This was a cross-sectional study focused on exploring the effects of certain factors on juvenile drug use for a specific group at one time. There were no efforts made to investigate the changes in these factors over time or how juvenile drug use changed over time within the comuna. Future research may lend itself to focusing on these changes and possibly enhancing the results of this study. Similarly, lack of firsthand access to these participants and the focus area was another limitation to this study. Unfortunately, the data collected was reliant on existing information from Drummond et al. (2017) and not on information collected firsthand by the author of the present study. Time spent within Comuna 13 and direct contact with participants and community members would have been beneficial to exploring the data in a more in depth manner.

Further research may also lend itself to exploring the cultural and geographical differences that may have affected the results of this study when compared to past research. It is

interesting to note that the 2015 study conducted by Hendricks et al. took place in Cape Town, South Africa, while Oetting and Beauvais's (1986) study was conducted with adolescents from the United States. Exploring how the culture of these areas alters the data would be beneficial to understanding how different parts of the world may yield different results. Cultural differences in opinions on drug use and drug abuse may cause the results and outcomes to vary. Additionally, different geography could affect the availability and commonality of drug use or drug abuse. Further research into how these differences affect adolescent drug use would be beneficial to determine whether or not juveniles from different areas of the world were more affected by peer pressure.

The null hypothesis for this study stated that out of each factor or independent variable analyzed, peer pressure (defined as negative peer influence) would have the strongest correlation with adolescent drug use. The work performed by Oetting and Beauvis (1986) provided a vantage point for this hypothesis. Their peer cluster theory indicated that "peer encouragement" to engage in drug use was most significantly correlated with drug use (p. 19). Hendricks et al. (2015) also reported that peer pressure was a strong predictor of juvenile substance use, further providing evidence for the conception of this hypothesis.

References

American University. (2001). Drug court activity update: Composite summary information, May 2001. *Washington D.C.: US Department of Justice, Drug Court Clearinghouse*.

Bureau of Justice Statistics. (1992) Drugs, crime, and the justice system. *U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.*

Butters, J. E. (2004). The impact of peers and social disapproval on high-risk cannabis use: gender differences and implications for drug education. *Drugs: Education, Prevention & Policy*, *11*(5), 381–390.

Crowe, A. H. & Bilchick, S. (1998) Drug identification and testing summary. *Office of Juvenile Justice and Delinquency Prevention*.

Demarest, G. (2011). Urban land use by illegal armed groups in Medellín. *Small Wars Journal*.

Dinges, M. M. & Oetting, E. R. (1993). Similarity in drug use patterns between adolescents and their friends. *Adolescence, 28*(110), 253. Retrieved from: http://search.ebscohost.com.libsrv.wku.edu/login.aspx?direct=true&db=a9h&AA=9309292046&site=ehost-live

Drummond, H., Dizgun, J., & Keeling, D. (2012). Medellín: A city reborn?. *American Geographical Society's Focus on Geography*, *55*(4), 146-154.

Drummond, H., Dizgun, J., & Keeling, D. (2016). Role differentiation in an adolescent-victim offender typology: Results from Medellín, Colombia. *Journal of Interpersonal Violence, 31*(18). 3080-3107.

Haynie, D. L. & Osgood, D. (2005). Reconsidering peers and delinquency: How do peers matter. *Social Forces*, *84*(2), 1109-1130.

Hendricks, G., Savahl, S., & Florence, M. (2015). Adolescent peer pressure, leisure boredom, and substance use in low-income Cape Town communities. *Social Behavior & Personality: An International Journal, 43*(1), 99–109. doi: 10.2224/sbp.2015.43.1.99

Horner, P., Grogan-Kaylor, A., Delva, J., Bares, C. B., Andrade, F., & Castillo, M. (2011). The association of family and peer factors with tobacco, alcohol, and marijuana use among Chilean adolescents in neighborhood context. *Substance Abuse and Rehabilitation*, *2*(1), 163-172. doi:10.2147/SAR.S20507.

Jang, S.J. (2019). Religiosity, crime, and drug use among juvenile offenders: A latent growth modeling approach. *Journal of Quantitative Criminology*, *35*(1), 27-60. doi: 10.1007/s10940-017-9368-2.

Matsueda, R. L. (1988). The current state of differential association theory. *Crime and Delinquency*, *4*(3), 277-306.

Meade, T. A. (2009). *A history of modern Latin America: 1800 to the present*. West Susgender, UK: John Wiley & Sons.

Naef, P. (2016). Medellin passe de la ville la plus violente à la plus innovante du monde. *La Cité.*

Naef, P. (2018). “Narco-heritage” and touristification of the drug lord Pablo Escobar in Medellín, Colombia. *Journal of Anthropological Research, 74*(4), 485-502. doi: 10.1086/699941.

National Highway Traffic Safety Administration. (1997) 1995 Youth fatal crash and alcohol facts. *U.S. Department of Transportation.*

Ngai, S. S., Cheung, J. C., & Ng, Y. (2018) Drug use history as a moderator of the effects of virtuous oreientation on the realization of drug harm in youth. *Children & Youth Services Review, 95*, 1-11.

Oetting, E. R. & Beauvais, F. (1986). Peer cluster theory: Drugs and the adolescent. *Journal of Counseling & Development, 65*(1), 17.

Oetting, E. R., & Beauvais, F. (1985). Peer cluster theory, socialization characteristics and adolescent drug use: A path analysis. *Journal of Counseling Psychology, 34*(2), 205-213. http://dx.doi.org/10.1037/0022-0167.34.2.205

Office of Applied Studies. (1994). Drug abuse warning network. *U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration*.

Pobutsky, A. B. (2013). Peddling Pablo: Escobar’s cultural renaissance. *Hispania, 96*(4), 684-699. Retrieved from: http://www.jstor.org/stable/23608518

Sutherland, E. H. (1947). *Principles of Criminology*. Chicago: J.B. Lippincott Co.

Tolou-Shams, M., Hadley, W., Conrad, S., & Brown, L. (2012). The role of family affect in juvenile drug court offenders' substance use and HIV risk. *Journal of Child & Family Studies, 21*(3), 449-456.

Usman, H. B., Atif, I., Pervaiz, T. B., Muhammad, A. B., Satti, A., & Bukhari, S. I. (2017). Practices and Reasons of Recreational Drugs Use among College and University Students of Rawalpindi and Islamabad. *Isra Medical Journal*, *9*(1), 9–14.

Voisin, D., Elsaesser, C., Kim, D., Patel, S., & Cantara, A. (2016). The relationship between family stress and behavioral health among African American adolescents. *Journal of Child & Family Studies*, *25*(7), 2201–2210. doi:10.1007/s10826-016-0402-0

Wormer, J. & Lutze, F. (2011). Exploring the evidence – The value of juvenile drug courts. *Juvenile and Family Justice Today*.

Zapolski, T. C. B., Clifton, R. L., Banks, D. E., Hershberger, A., & Aalsma, M. (2019). Family and peer influences on substance attitudes and use among juvenile justice-involved youth. *Journal of Child & Family Studies*, *28*(2), 447–456.