A STUDY OF RELATIONSHIP BETWEEN HEROIN ADDICTION AND CRIMINAL BEHAVIOR

Fateh Muhammad Burfat[*]
Naima Saeed[**]
Niaz Ahmed Siddiki[***]

Abstract

This paper reviews the causal relationship between heroin use and criminal behavior of heroin addicts in Karachi. The findings of the study established that there is no association of heroin addiction with crime causation. A minority of heroin addicts indulged in crime to fund their drug habit. The reasons for indulgence in criminal activity were purely economic. Criminal behavior was therefore not found associated with heroin use. The paper is an exploratory study. The universe of the present study was the heroin addict population in the city of Karachi. Data collection was done through a structured interview schedule. Collected data has been systematically presented through univariate and bivariate tables. Data analysis was done using Statistical Package for Social Sciences (SPSS).Conclusions drawn from the study and remedial measures are suggested.

Keywords: *heroin addiction, criminal behavior, crime, incarceration, propensity.*

[*] Fateh Muhammad Burfat, Professor, Department of Sociology, University of Karachi, Karachi, Pakistan
[**] Naima Saeed, Lecturer, Department of Sociology, University of Karachi, Karachi, Pakistan
[***] Niaz Ahmed Siddiki, Inspector General of Police (Rtd)

Introduction

There is considerable evidence to demonstrate that drug use is inextricably linked to crime.[1,2,3,4&5] Research, however, shows that behavioral linkages between drug use and criminal behavior are much more complex, indirect, and probabilistic than previously believed. No drugs or particular drug combinations have been established as inherently or directly crime-causing.[6] Drug use and criminality can and do exist without each other, demonstrating that neither is a necessary condition for the existence of the other.[7&8] Drug use may be one cause of criminal behavior, but it is neither necessary nor sufficient to cause crime.[9&10]

A review of the causal relationship between drug use and criminal behavior must begin with youth, since both drug use and criminal activity are generally initiated in the preteen and early teenage years. Several longitudinal studies have examined the interrelationship of drug use and criminal behavior among youth, but determining causality has been difficult.[11,12,13,14,15&16]

B.D. Kandel et.al., identifying four theoretical frameworks accounting for youthful drug involvement that have been developed and supported by empirical research: Jessor's theory of problem-behaviour, Akers's social learning theory, Kaplan's theory of self-derogation, and her own socialization theory.[17] The theoretical frameworks proposed by

---

1 Nurco, D. N., T. E. Hanlon, M. B. Balter, t. W. Kinlock and e. Slaught. 1991. A classification of narcotic addicts based on type, amount, and severity of crime. Journal of Drug Issues 21:429-448.

2 Anglin, M. D. and G. Speckart. 1988. "Narcotics use and crime: A multi-sample, multi-method analysis. Criminology 26 (2): 197-233.

3 Hunt, D. E., D. S. Lipton and B. Spunt. 1984. "Patterns of criminal activity among methodone clients and current narcotics users not in treatment." Journal of Drug issues 14: 687-701.

4 Inciardi, J. A. 1981. "Marijuana decriminalization research." Criminology 19 (1): 145-159.

5 Johnson, B. D. 1987. The economic behavior of street opiate addicts. Rockville, MD: Final report to the National Institute on Drug Abuse.

6 Gropper, b. A. 1985. Probing the links between drugs and crime. Washington, DC: U.S. Department of Justice, National Institute of Justice

7 Anglin, M. D. and G. Speckart. 1988, op.cit.

8 Hunt, D. E., D. S. Lipton and B. Spunt. 1984, op.cit.

9 Gropper, b. A. 1985, op.cit.

10 Graham, M. and E. Zedlewksi (eds). 1990. Searching for Answers: Research and Evaluation on Drugs and Crime. Washington, DC: U.S. Department of Justice, National Institute of Justice.

11 Kandel,D.B.,Kessler,R.C.,&Margulies,R.S.1978. Antecedents of adolescent initiation into stages of drug use: A development analysis.Journal of Youth and Adolesence,7,13-40.

12 Johnston, L. D., P M. O'Malley and L. K. Eveland. 1978. "Drugs and delinquency: A search for causal connections." In D. B. Kandel (ed.), Longitudinal Research on Drug Use: Empirical Findings and Methodological Issues. Washington, DC: Hemisphere.

13 Akers, R. L. 1984. "Delinquent behavior, drugs, and alcohol: What is the relationship?" Today's Delinquent 3:19-46.

14 Richard Jessor,James A.Chase,John E.Donovan.1980.Psychosocial correlates of marijuana use and problem drinking in a national sample of adolescents,Denver,U.S.A,University of Colorado

15 Kaplan, H. B., S. S. Martin, R. J. Johnston 1986 "Self-rejection and the explanation of deviance: Specification of the structure among latent constructs." American Journal of Sociology 92:384-411.

16 Huizinga, D.H., S. Menard and D.S. Elliot. 1989. "Delinquency and drug use: Temporal and developmental patterns." Justice Quarterly 6 (3): 419-455.

17 Kandel,D.B.Kessler,R.C.,&Margulies,R.S.,op.cit., 35.

Jessor, Akers and Kaplan equally well predict delinquency and drug use. Although Kandel's research does not address this interchangeability of behaviours in quite the same way, she also reports that drug users are much more likely than non-users to be involved in lifestyles that reflect lesser attachment to conventional institutions and greater participation in deviant activities. In general all of these frameworks view illicit drug use as deviant behavior most likely to occur within the context of other deviant behaviours such as delinquency and early sexual activity.

More recent research on the correlates of drug use and criminal behavior among youth conducted by Dembo and colleagues found that drug use and delinquent behavior, especially for black males, can be traced to factors or stressors that result in youth having little stake in conventional behaviours. Among the stressors are educational problems such as poor academic performance and alienation from authority figures, and social structure characteristics such as high rates of unemployment, poverty, and residing in areas characterized by a high rate of children born out of wedlock and infant mortality.[18] Abused and neglected children also have significantly higher rates of delinquency and drug and alcohol abuse.[19] Support for these findings on a number of stressors relevant to drug use and criminal behavior is evident via an examination of characteristics of jail inmates. Nearly half (44.4%) of jail inmates in 1989 reported that they had been physically or sexually abused by an adult. Fewer than half (47%) had graduated from high school. Sixty-one percent were members of a minority group. Over a quarter of them reported that their parent or guardian abused alcohol or drugs while they were growing up (22.4% alcohol, 0.8% drugs and 3.1% both), and fewer than half (47.7%) lived with both parents while growing up (Bureau of Justice Statistics, 1991).

While it has been established that there are strong correlations among a number of different types of deviant behaviours, there is no strong evidence that either drug and/or alcohol use causes crime or that involvement in criminal activity causes drug and/or alcohol use. The general conclusion reached by several researchers is that deviant behaviours occur within the context of a general deviance syndrome.[20,21,22&23] Those likely to engage in one form of deviant behavior, are also likely to engage in other forms of deviant behaviour.

Two different explanations can account for the shared variance in different forms of deviant behavior: (1) engaging one form of deviant behavior leads to engaging in other forms as well or (2) different deviant behaviours are related because they have shared

---

[18] Dembo, R., L. Williams, W. Wothke, J. Schmeidler, A. Getreu, B. Estrellita, E. D. Wish and C. Christensen, 1990. The relationship between cocaine use, drug sales and other delinquency among a cohort of high-risk youths over time. In M. de la Rosa, E. Y.Lambert and B. Gropper (eds.) ,Drugs and Violence: Causes, Correlates and Consequences. Rockville, MD: U.S. Department of Health and Human Services, National Institute on Drug Abuse.

[19] Widom,Cathy Spatz.1989.Juvenile crime,juvenile justice,Washington,D.C.Library of Congress

[20] Osgood, D.W., L. D. Johnston, P. M. O'Malley, and J. G. Bachman. 1988. The generality of deviance in late adolescence and early adulthood." American Sociological Review 53:81-93.

[21] Elliot, D. S. , D. Huizinga and S. Ageton. 1985. Explaining Drug Use and Delinquency, Beverly Hills, CA: Sage.

[22] Kaplan, H. B., S. S. Martin, R. J. Johnston 1986, op.cit.

[23] Akers, R. L. 1984. op.cit.

influences (Osgood et al., 1988). Using structural modeling approach, Osgood and colleagues concluded that although different forms of deviant behaviours do in fact share a common general construct, that construct in itself cannot fully account for the separate behaviours. Each behavior is both a manifestation of a general tendency and a unique phenomenon. Factors important to one deviant behavior can be entirely irrelevant to others.[24]

Almost all empirical studies conducted in the United States of America that have examined the temporal sequencing of drug use and criminal behavior among youth report that involvement in both minor and serious delinquent behavior precedes illicit drug use.[25&26]

Several studies validate the high degree of intersection between drug use and criminal behavior despite the fact that causal connections have not been firmly established. Studies of 'labeled' deviants who have been arrested and incarcerated, show high levels of drug use among these offender populations.

Many studies have demonstrated the low risk of arrest among drug-abusing criminals. A study by Nurco and colleagues of male addicts in Baltimore over an 11 year period found that fewer than 1% of the crimes committed resulted in arrest.[27] Similarly, a study by Inciardi of narcotic users in Miami between 1978 and 1981 found that fewer than 1% of criminal offenses resulted in arrest.[28] Several studies have more fully explored the relationship between drug use and criminal behavior to, in essence, plot the course of a criminal and drug-using career. This research has found a range of both drug use and criminal behavior. Even among criminally active drug abusers, the major criminal activity is generally drug sales. Only a small number are actively engaged in non-drug crimes, that is robbery, burglary, shoplifting, other larcenies, prostitution, and etcetera.[29] Research on criminal careers has found that the most active and violent criminals began their careers as adolescents. They frequently used heroin or multiple drugs as youngsters and as adults were daily or near daily drug users.[30]

A prospective study conducted between 1980 and 1982 of 201 subjects recruited from the streets of Central and East of Harlem in New York City by Johnson and colleagues showed a high degree of correlation between drug use and crime patterns. The subjects reported on their drug and crime activities on a daily or near daily basis for a minimum of 33 days, and estimates were made of their annual rates of drug usage and crime. About a

---

[24] Osgood, D.W., L. D. Johnston, P. M. O'Malley, and J. G. Bachman. 1988. op.cit.

[25] Huizinga, D. H., S. Menard and D. S. Elliot. 1989. "Delinquency and drug use: Temporal and developmental patterns." Justice Quarterly 6 (3): 419-455.

[26] Johnston, L. D., P M. O'Malley and L. K. Eveland. 1978. op.cit.

[27] John C. Ball, John W. Shaffer,David N. Nurco. 1983. The day-to-day criminality of heroin addicts in Baltimore: a study in the continuity of offense rates; revised version of paper presented to the Annual Meeting of the American Society of Criminology, Toronto, Canada, November 6, 1982,U.S.A, National Inst. of Justice, U.S. Dep. of Justice

[28] Inciardi, J. A. 1981. "Marijuana decriminalization research." Criminology 19 (1): 145-159.

[29] John C. Ball, John W. Shaffer,David N. Nurco. 1983, op.cit.

[30] Chaiken, M. R. and B. D. Johnson. 1988. Characteristics of different types of drug-involved offenders. Washington, DC: U.S. Department of Justice, National Institute of Justice.

third (31%) of the subjects were classified as daily heroin abusers; 39% were classified as regular heroin abusers (3-5 days/week); and 30% were classified as irregular heroin users (0-2 days/week). The subjects were generally multiple drug users.[31]

The study found that the frequency of heroin use was highly correlated with criminal activity. Daily heroin abusers committed over 1200 offenses per year, compared with 500 among irregular heroin users. Daily heroin abusers committed approximately 900 drug distribution crimes per year; irregular users committed about 250. Non-drug crimes totaled about 209 for daily heroin abusers, 162 for regular heroin abusers and 116 among irregular heroin users. The annual returns from crime, including drug income, were approximately $ 18,000 for daily heroin abusers and $6,000 for irregular users. Daily heroin abusers consumed about $ 17000 worth of drugs (mostly heroin) per year, compared with $ 5000 worth consumed by irregular heroin users. The legal incomes of the subjects approximated expenditures for food, shelter, clothes, and other non-drug purposes. The retail value of losses due to non-drug crimes by daily heroin abusers was almost $23000 compared with $ 6000 for irregular users.[32]

In a non-random study of 1,003 cocaine and non-cocaine abusers in New York City conducted in 1988-89, Johnson and colleagues found similar rates of crime among cocaine abusers and heroin injectors. The study also found that most heroin abusers were regular cocaine users too, and 10% to 15% of the subjects engaged in drug related crimes.[33] It is obvious that heroin and cocaine abusers engage in tremendous amount of criminal activity, although the bulk of this activity revolves around drug sales. Nevertheless, heroin users are also responsible for a tremendous amount of property crime. Several studies have focused more specifically on the interrelationship of illicit drug use and criminal behavior. Research has consistently shown that patterns of frequent and intense heroin use are accompanied by correspondingly higher rates of criminal activity.

Nurco and colleagues conducted a study exploring the crime patterns and drug use over the course of a 12 year period of a representative sample of 354 male opiate addicts in Baltimore, USA. Addicts were selected from a known population of opiate users arrested or identified by the Baltimore Police Department between 1952 and 1976. The study found that the 354 males committed an average of over 2000 offences per individual over a nine year period following the onset of addiction. The most frequent type of crime was property theft, which accounted for about 38% of total “crime-days”. A crime day is defined as a 24 hour period in which an individual engages in one or more criminal offenses. Drug sales accounted for 27% of the total crime days. Violent offenses accounted for about 2% of crime-days, and a variety of other offenses accounted for the remaining 33% of the total crime-days.[34] Criminal patterns varied markedly during periods of addiction and non-addiction. The 354 males had from one to fourteen addiction periods and from zero to eight periods of non-addiction over the 12 year period

[31] Johnson, B. D. 1987. op.cit.
[32] Ibid.
[33] Johnson, B. D. 1987, op.cit.
[34] John C. Ball, John W. Shaffer, David N. Nurco. 1983, op.cit.

of study. The mean number of non-addiction periods was 3.6; the mean number of non-addiction periods was 1.7. About 60% of the nine-year period between the onset of addiction and the time of the interview were addiction periods. During the first addiction period, the male addicts engaged in crime 70% of the time. During the first non-addiction period, they engaged in crime about 22% of the time, representing a two-thirds reduction in their criminal activity. The first addiction and first non-addiction period were similar in length. The first addiction period lasted 815 days on average, compared with an average of 887 days for the non-addiction period. The amount of crime during periods of non-addiction decreased with successive periods of non-addiction, so that by the fourth period of non-addiction, addicts engaged in crime only 3.7% of the time. However the amount of time engaged in criminal activity during periods of addiction remained relatively stable throughout the successive addiction periods.[35] Addiction to illicit drugs appears to be an amplifier or catalyst that aggravates deviant tendencies.[36] For those who are already involved in criminal activity, narcotic addiction substantially increases the frequency of criminal activity. For those minimally involved or uninvolved, addiction serves as a catalyst to propel criminal activity, although for many that criminal activity primarily revolves around drug sales. There appears to be a hierarchy of criminal activity, with drug dealing as the preferred means of support, followed by property crimes and, infrequently, violent acts. However, criminal activity during addiction periods is anchored by pre-addiction criminal history.

The relationship between drug use and violent crime has not been well researched. However in general, drug addicts appear to commit few violent offenses.[37&38] The distribution of violent crimes also appears unrelated to the frequency of use.[39]

Goldstein[40] has posited a classification scheme differentiating three causal linkages between drugs and violence. First, the psychopharmacological model holds that the effects of drugs may encourage violence by relaxing inhibitions, increasing irrationality, and/or disorienting the individual. The drugs most relevant to this model are probably alcohol, stimulants, barbiturates and PCP.

The economic compulsive model suggests that drug users engage in economically motivated crimes to obtain money to support their drug habit. Some of these crimes are inherently violent, for example, robbery or violence may result from unintended or extraneous factors. Due to their high cost and compulsive patterns of use, heroin and cocaine are probably the most relevant substances in the model.

The third and final part of Goldstein's tripartite classification is the systemic model,

---

[35] Ibid.
[36] Anglin, M. D. and G. Speckart. 1988. op.cit.
[37] Hunt, D. E., D. S. Lipton and B. Spunt. 1984. "Patterns of criminal activity among methadone clients and current narcotics users not in treatment." Journal of Drug issues 14: 687 -701.
[38] John C. Ball, John W. Shaffer,David N. Nurco. 1983, op.cit.
[39] Watters, J. K., C. Reinarman and J. Fagan, 1985. "Causality, context, and contingency: Relationships between drug abuse and delinquency." Contemporary Drug Problems 12:351-373.
[40] Goldstein, P. J. 1985. "The drugs/violence nexus: A tripartite conceptual framework." Journal of Drug Issues 15:493-506.

which proposes that violence is inherent to the drug-distribution system. For example a person selling drugs may be assaulted or even killed when he tries to shortchange his customer or fails to pay his supplier. The drugs most likely to be associated with the systemic model are also heroin and cocaine.

Goldstein classified 53% of 414 homicides in New York City homicides in New York City in 1988 as drug related. The primary classification was systemic, with 39% of the homicides attributed to involvement in drug trafficking. About 2% were attributed to economic, compulsive motivations, 7.5% to psychopharmacological motivations, and 4% were multidimensional, or attributed to a combination of motives. In nearly one third of the cases, the primary drug associated with homicides, was cocaine. Alcohol was associated with all psycho-pharmacologically classified homicides.[41]

Objectives of The Study

The general objectives of the study are to establish the interface between heroin addiction and crime causation and to determine the inter-relationship between heroin addiction and criminal behavior of heroin addicts. The study will help to identify the causative factors that lead to commission of crime by heroin addicts; determine the types of crime committed by them and establish the motives for such crimes. Once this is done, remedial measures both at policy, health care and law enforcement levels can be suggested for implementation.

The specific objectives of the study are:

1. To find out the factors that are responsible for crime causation among heroin addicts

2. To investigate and establish the correlation between age, education, income, living status of heroin addicts with crime committed by them; the number of times arrested by police; crimes charged with and period of incarceration;

3. To explore the drug-crime nexus and determine the interface between heroin addiction and criminal behavior of addicts

4. To suggest remedial measures to prevent criminal activity among heroin addicts

Hypotheses of the Study

The following hypotheses have been formulated for the present study:
1. Heroin addiction is associated with crime commission
2. Crime commission is associated with funding the drug habit
3. There is an association of age with involvement in crime

[41] Goldstein JM,Tsuang MT,Faraone SV.1989.Gender and schizophrenia, implications for understanding the nature of disorder.Psychiatry Res 28:243-253.

4. Literacy rate is associated with involvement in crime

Variables of the Hypothesis

In an hypothesis, there are two basic elements. One is the causal element and the other is the element of effect. These are called independent and dependent variables.

Independent variable is one that has a 'causal' element and a dependent variable is one which has the 'effect' element. This means that a particular occurrence is one of the facts that determine the other occurrence. For example, age as a factor that causes an effect on crime. Age will be deemed to be the Independent Variable, and Crime, the Dependent Variable.

Methodology

The present study is an exploratory study in which the researchers have endeavored to find similarities between research findings of studies conducted on the subject topic in the US, Europe and Australia and our own local situation. The researchers have tried to test the validity of those findings in the study of the criminal behavior of drug addicts in Karachi.

The universe of the present study is the heroin addict population in the city of Karachi. Two hundred and twenty two respondents were selected through non-probability quota sampling, who volunteered to participate in the research. A structured Interview schedule, comprising 80 questions, was administered to the respondents at the New Horizon Care Centre. It is a rehabilitation and treatment facility for drug addicts located in Gulshan e Iqbal, and its outreach centres located in various towns of Karachi.

Data was analyzed with the use of the Statistical Package for Social Sciences version 16.Chi square and t tests were used for testing of hypotheses.

Presentation of Data

Table 1

Frequency and Percentage Distribution of Respondents According to Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15 - 30 years	133	59.1	59.9	61.3
	31 - 45 years	65	28.9	29.3	90.5
	46 - 66 years	21	9.3	9.5	100.0
	Total	222	98.7	100.0	
Total		222	100.0		

The table indicates the overall frequency and percentage distribution of respondents

according to age groups. 59.9% fall within the age group 15-30 years; 29.6% within 31-45 years and 9.5% between the age group 41-66 years. The mean age is 30.6 years and the majority of respondents are under 30 years.

Table 2

Frequency and Percentage Distribution of Respondents According to Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	85	38.3	38.3	38.3
	Primary	94	42.3	42.3	80.6
	Matric	29	13.1	13.1	93.7
	Intermediate	10	4.5	4.5	98.2
	Graduate and above	4	1.8	1.8	100.0
	Total	222	100.0	100.0	

The above table shows the frequency and percentage distribution of respondents according to level of education. The majority are literate having studied up to primary level (42.3%), followed by illiterate (38.3%). 13.1% have studied up to secondary level, namely up to Matriculation while 4.5% have studied up to Intermediate. 1.8% of the respondents had studied up to Graduate level. Cumulatively, 61.7% are literate while 38.3 are illiterate.

Table 3

Frequency and Percentage Distribution of Respondents According to Source of Funding the Drug Habit

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Information not provided	9	4.1	4.1	4.1
	From own income	105	47.3	47.3	51.4
	From family's income	48	21.6	21.6	73.0
	From begging and committing crimes	50	22.5	22.5	95.5
	From other sources	10	4.5	4.5	100.0
	Total	222	100.0	100.0	

The above table and fig. 1 clearly show that the majority of respondents fund their drug habit from their own income (47.3%) or from their family's income (21%). A small minority (22.5%) declared that they supported their drug habit from income generated by them by committing crimes. Begging is included in crime as it is an arrestable offence in Pakistan under the Vagrancy Act. 4.5% stated they funded their drug habit from other unspecified sources.

Table 4

Frequency and Percentage Distribution of Respondents According to Nature of Crime Committed by Addicts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not involved in crime commission	157	70.7	70.7	70.7
	Non-violent crime against property	48	21.6	21.6	92.3
	Violent crime against property	15	6.8	6.8	99.1
	Crime against person	2	0.9	0.9	100.0
	Total	222	100.0	100.0	

The above table and Fig. 1 below depict that a great majority of respondents (70.7%) are not involved in committing crime and that only a minority of 29.3% are involved in crime commission. Out of the latter 21.6 are involved in committing non-violent crime against property, 6.8% in committing violent crime against property and .9% in committing crime against person.

Testing of Hypotheses

Contingency Table 1

H_o = Heroin addiction is not associated with crime commission

H_1 = Heroin addiction is associated with crime commission

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
involved in crime or not	222	0.2928	0.45607	0.03061

One-Sample Test

	Test Value = .5					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Involved in crime or not	-6.769	221	0.000	-0.20721	-0.2675	-0.1469

Ho: 50% of the heroin addicts commit crime.

H1: Less than 50% heroin addicts commit crime.

The sample mean shows that about 29% heroin addicts are involved in crimes. To test it

inferentially to be less than 50%, t test was used. Data in table 4 shows that the test is significant at 0% significance level, which inferentially shows that majority of heroin addicts do not indulge in crime.

Null Hypothesis (H_o) is therefore validated and alternate Hypothesis (H_1) is rejected. Heroin addiction is not associated with crime commission because a majority does not indulge in crime. This implies that those who are involved in crime commission are committing crimes to fund the drug habit, the reasons for which are purely economic. There is no causal relationship between drug addiction and crime commission in view of these findings.

Contingency Table 2

H_o = There is no association between age and involvement in crime

H_2 = There is association between age and involvement in crime

			Involved in crime or not		
	Age Group		Not involved in Crime	Involved in Crime	Total
	15 to 30	Count	83	50	133
		% within agegrp2	62.4%	37.6%	100.0%
	31 to 45	Count	52	13	65
		% within agegrp2	80.0%	20.0%	100.0%
	46 to 66	Count	19	2	21
		% within agegrp2	90.5%	9.5%	100.0%
	Total	Count	154	65	219
		% within agegrp2	70.3%	29.7%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.997[a]	2	.004
Likelihood Ratio	11.998	2	.002
Linear-by-Linear Association	10.740	1	.001
N of Valid Cases	219		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.23.			

Ho: There is no association between age and involvement in crime.

H2: There is association between age and involvement in crime.

Contingency table 1 explicitly shows that with increase in age the percentage of addicts involved in crime declines, which shows that both the variables namely; age and involvement in crime are inversely related. The Chi Square value of 10.997 and the associated p value of 0.004 shows that the test is statistically significant, i.e. there is association between age group and involvement in crime.
H_o is therefore rejected. There is positive association between age and involvement in crime.

Contingency Table 3

H_o = A minority of addicts is not associated with crime commission to fund their drug habit

H_3 = A minority of addicts is associated with crime commission to fund their drug habit

Source of funding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Information not provided	9	4.1	4.1	4.1
	From own income	105	47.3	47.3	51.4
	From family's income	48	21.6	21.6	73.0
	From begging and committing crimes	50	22.5	22.5	95.5
	From other sources	10	4.5	4.5	100.0
	Total	222	100.0	100.0	

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
funding through Legal or Crime	222	0.2252	0.41867	0.02810

One-Sample Test

	Test Value = 0.3					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
funding through Legal or Crime	-2.661	221	0.008	-0.07477	-0.1302	-0.0194

Contingency table 3 shows that 22.5% of the drug addicts fund their habit through

crime. When this value was inferentially tested with the hypothesis given below:

Ho: 30% drug addicts fund their drug habits through illegal means.
H3: Less than 30% addicts fund their drug habits through illegal means.

The test is statistically significant at 0.08 (two tail) and it will be significant at 0.04 for one tail test. The value reveals that less than 30% drug addicts resort to illegal means for funding their drug habits.

The results indicate that a minority of heroin addicts fund their drug habit through crime and other illegal means.

Contingency Table 4

H_o = Higher the literacy level of an addict, higher the involvement in crime

H_4 = Higher the literacy level of an addict, lower the involvement in crime

			Involved in crime or not		
Level of Education			Not Involved in Crime	Involved in Crime	Total
Illiterate and Literate	1	Count	58	27	85
		% within Illiterate and Literate	68.2%	31.8%	100.0%
	2	Count	99	38	137
		% within Illiterate and Literate	72.3%	27.7%	100.0%
		Total Count	157	65	222
		% within Illiterate and Literate	70.7%	29.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.411[a]	1	0.522		
Continuity Correction[b]	0.239	1	0.625		
Likelihood Ratio	0.409	1	0.523		
Fisher's Exact Test				0.546	0.311
Linear-by-	0.409	1	0.522		

Linear Association					
N of Valid Cases	222				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.89.
b. Computed only for a
2x2 table

H_o = There is association between literacy rate and crime commission
H_4 = There is no association between literacy rate and crime commission

Contingency table 4 explicitly shows that with the increase in literacy level the percentage of addicts involved in crime shows no significant rise, which shows that both the variables namely, literacy rate and involvement in crime are not related. The Chi Square value of 0.411 and the associated p value of 0.522 shows that the test of significance at 26% significance is statistically insignificant, thereby establishing that there is no association between literacy rate and involvement in crime.

H_o is therefore rejected. H_4 is established. There is no association between literacy rate and involvement in crime.

Findings of Statistical Analysis of Hypotheses

In order to analyze the data collected to study "A Study of Relationship between Heroin Addiction and Criminal Behavior", four hypotheses were formulated which were tested by using the Chi Square and t tests for validity. The results are enumerated below:

1. The first hypothesis inferred that there was an association between heroin addiction and crime. The sample mean showed that about 29% heroin addicts were involved in crime commission. To test it inferentially to be less than 50%, t test was used. Data showed that the test was significant at 0% significance level, which inferentially showed that majority of heroin addicts did not indulge in crime. A small minority, who did indulge in crime commission, did so with the prime motive of funding their drug habit, the reasons for which were purely economic. No causal relationship was found between drug addiction and crime commission in view of these findings.

2. The second hypothesis inferred that age was associated with involvement in crime.
Contingency table 2 explicitly showed that with an increase in age the percentage of addicts involved in crime declined, which showed that both the variables namely; age and involvement in crime were inversely related. The Chi Square value of 10.997 and the associated p value of 0.004 showed that the test was statistically significant, i.e. there is association between age group and involvement in crime.

3. The third hypothesis inferred that a minority of drug addicts funded their drug habit from crime proceeds. Contingency table 3 showed that 22.5% of the drug addicts

funded their habit through crime commission. When this value was inferentially tested with the hypothesis given below:

Ho: 30% drug addicts fund their drug habits through illegal means.
Ha: Less than 30% addicts fund their drug habits through illegal means.

The test was statistically significant at 0.08 (two tail) and it would be significant at 0.04 for one tail test. The value revealed that less than 30% drug addicts resort to illegal means for funding their drug habits. The results indicated that a minority of heroin addicts fund their drug habit through crime and other illegal means.

3. The fourth hypothesis inferred that literacy rate was associated with involvement in crime. Contingency table 4 explicitly showed that with the increase in literacy level the percentage of addicts involved in crime showed no significant rise, which showed that both the variables namely, literacy rate and involvement in crime were not related. The Chi Square value of 0.411 and the associated p value of 0.522 showed that the test of significance at 26% significance was statistically insignificant, thereby establishing that there was no association between literacy rate and involvement in crime.

Conclusion

The present study was conducted to find out the association of heroin addiction with crime causation; to identify the elements associated with crime commission by heroin addicts; to test the findings of researches conducted on the subject topic in the United States, Europe and Australia with the drug-crime nexus and criminal behavior of heroin addicts in Karachi.

The findings of the study established that there was no association of heroin addiction with crime causation. A minority of heroin addicts indulged in crime to fund their drug habit. The reasons for indulgence in criminal activity were purely economic. Criminal behavior was not found associated with heroin use.

Amongst the small minority that indulged in crime to fund their drug habit, association was found between age and involvement in crime. The younger the age, the higher involvement in crime will be. As revealed in the study, the majority of crimes were committed by addicts in the age group ranging from 15 to 30 years. As the age increased, the involvement in crime declined.

There was no association between literacy rate and involvement in crime. Among the minority that indulged in crime commission primarily to fund the heroin habit, the illiterate and the literate, both exhibited similar patterns of involvement in crime.
The present study validates the findings of various researches conducted in the United States of America, Europe and Australia as similar findings were obtained from the survey of heroin addicts in Karachi. The principles of the Strain Theory of Robert K. Merton and the Differential Association Theory of Edwin Sutherland were also found

applicable to the deviant behavior characteristics exhibited by heroin addicts in Karachi.

Limitations

The present study was limited to a sample group drawn from those who were receiving treatment, had been treated or were not receiving treatment, but were within the counseling reach of the New Horizons Care Centre, Karachi. It is a rehabilitation and treatment facility that offers free treatment to all drug addicts. All possible efforts were made to make the sample a truly representative sample of Karachi's population of heroin drug addicts. The quota sampling was done in a manner that a good spread of addicts could be secured from all towns of Karachi.

The study is based on self reports of the respondents. Time constraints did not permit the researchers to examine key informants from the Government institutions, particularly the Jail and Police authorities. Information was requested from them, but they could not furnish it till the writing of this paper. The main reason for this was that crime figures available with the Police do not categorize criminals by category and addicts or non addicts are not differentiated. The Prisons Department also asked for time for the same reason. Hence reliance has been placed on the accuracy of information provided by the respondents/addicts in their self reports.

Suggestions

The findings of this study can be extended to the whole population of drug addicts in Pakistan. Based on the findings, the following suggestions are made:

1. **Policy Level**

   Policy making needs to undergo a paradigm shift. Policy makers need to address the problem of heroin addiction, as other drug abuse, from the points of view of harm reduction and drug demand reduction. Emphasis on supply reduction is meaningless in the absence of harm and demand reduction strategies.

   Countries in Scandinavia and in Europe, particularly the Netherlands and Switzerland have successfully reduced supply through their focus on harm and demand reduction. The US, Germany and Australia are also turning their focus towards this aspect.

   Although a minority of heroin indulges in criminal activity, primarily to fund their drug habit, this minority constituting 22%, when translated into numbers, means 22000 drug addicts (out of a total of an estimated population of 100000) in Karachi are engaged in criminal activities. Even if one crime each is committed by a drug addict, it means an addition of 22000 crimes to the crime figures in Karachi which presently stand at 30000 (CCP Karachi, 2009) per year on the average.

Taking incarceration figures, 31%, or in numerical terms, 31000 addicts have served sentences in jail. Although at different periods of time, it can safely be assumed on the basis of international researches in the U.S. Europe and Australia, that the majority of incarcerated are drug related offenders, that a similar condition would exist in Pakistan too. Even if we divide the figure of 31000 addicts having been to jail within the last 3 years, the average number would be in the vicinity of 10000 every year. The authorized capacity of Central Prison Karachi does not exceed 8500!

Going by the consumption scale, the daily cost of purchasing heroin on the average comes to Rs. 227. This multiplied by the estimated user population of 100000 means a daily expenditure of Rs. 22 .7 million, and if calculated at country level with an estimated 500000 users, the figure comes to a staggering Rs. 113.5 million per day!

Treatment and Rehabilitation should be done at Government level absolutely free of cost and drop-in centres should be established in all areas where heroin prevalence exists. Substitution therapies must be promoted as has been successfully demonstrated in the Netherlands. Methodone, a prescribed drug, is administered to addicts, free of cost, in place of street purchased heroin. It gives the same physiological sensations, without the harmful psychological and other effects of heroin.

Getting addicts off the streets is more productive than getting the drug off the streets in the long run. A complete rehabilitation package should be developed for heroin and all drug abusers so that they can readjust in normal society without socio-economic stress and other problems. The Government can save all the extra costs on the exchequer and the social sector by attending to their treatment, rehabilitation and reform.

2. Social Level

Awareness programmes should be promoted on a large scale to prevent people, particularly the youth from taking to heroin, or other drugs. A complete social action programme should be chalked out in this regard in which community based organizations and non-governmental organizations can be incorporated as they have played significant role in the past and, are doing so at present.

4. Administrative and Legal Level

Police must not arrest heroin addicts, but must facilitate out reach workers to reach them and counsel them for treatment. Incarcerations of drug addicts must be disallowed by law and they must instead, if convicted for drug sales or other arrest-able offences, be remanded to institutional care on probations for supervised treatment and rehabilitation.