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Quantitative Criminology: The Subject and the Differences from other Branches

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ABSTRACT

The primary research tools of quantitative criminology can be used to investigate numerous causes of crime. Obtaining useful data is beneficial to society in a variety of ways. Criminal behaviour and social responses to criminal behaviour are studied using quantitative data. Crime research has traditionally relied heavily on quantitative data, even if other sorts of data have been employed to make significant contributions to criminological thought. For CCJ researchers, this document explains the many forms of quantitative data they are likely to encounter. Measurement and analysis of data obtained through polls or questionnaires as well as manipulation of pre-existing data using computer techniques are at the heart of quantitative methods. A robust foundation of descriptive data is necessary for sound quantitative criminology. In the field of criminology, descriptive inference proves to be particularly difficult. The nature of criminal behaviour necessitates a reliance on official records, but this might lead to erroneous judgments. However difficult it may be, researchers and politicians alike are still working to better understand how interventions, legislation, and personal experiences affect criminal behaviours.

Keywords: *Quantitative Criminology, Quantitative Data, Criminal Behaviour, Descriptive Data*

I. INTRODUCTION

Crime and the criminal justice system are studied in depth in criminology, which is an interdisciplinary field. Crime, delinquency, and victimisation are at the centre of criminological research. The criminal justice system itself is also a major focus, particularly in the areas of police, courts, and corrections. There are many different ways to study criminology because of the large range of topics that are researched. Starting with the premise that no single, ideal technique exists for studying crime and the criminal justice system in all of its varied manifestations, it's essential to establish this. According to this discussion, the approach utilized should be one that is most matched to the research subject at hand.

Methods used to investigate crime and the criminal justice system will be the primary emphasis

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of this essay. We start with a look at the tools used to track crime, juvenile delinquency, and victimization before moving on to examine how the criminal justice system works. Because assessing the impact of a programme, policy, or legal change is often based on how crime and criminal justice activity are measured, a discussion of the methodologies used to measure crime and criminal justice activity is a logical next step in this debate. To wrap things up, the debate shifts to more qualitative and hybrid techniques of analysing crime and justice issues.²

WHAT IS QUANTITATIVE CRIMINOLOGY?

Quantitative criminology is described as a systematic analysis of phenomena through the collection of measurable data and the application of statistical, mathematical, or computational methods. Quantitative criminology gathers data from current and potential consumers by employing sampling methods and sending out online surveys, polls, questionnaires, and other forms of data collection, the results of which can be represented numerically. After gaining a thorough understanding of these figures, you may forecast the future of a product or service and make modifications as needed.

The survey done to determine how long it takes a doctor to tend to a patient when the patient goes into the hospital is an example of quantitative research. A patient satisfaction survey template can be used to ask questions such as how long it takes a doctor to see a patient, how often a patient enters a hospital, and other similar topics.

The statistical approaches used to acquire quantitative data from the research study are generally used in quantitative outcome research in the social sciences. Researchers and statisticians use mathematical frameworks and ideas related to the quantity in question in this research strategy. Quantitative research templates are objective, detailed, and, in some cases, investigative in nature. This research strategy produces logical, statistical, and unbiased findings. Data was collected in an organised manner and on bigger samples that were representative of the total population.

II. HISTORY AND DEVELOPMENT OF QUANTITATIVE RESEARCH IN CRIMINOLOGY

In the broadest sense, criminal activity is the subject of criminology. This definition suggests that the work of Cesare Beccaria in 1764 on torture and the death sentence was one of the first manifestations of criminology. Criminology owes a lot to Beccaria, whose contributions were fundamental but simply philosophical. Émile Durkheim, a well-known sociologist, was the driving force behind one of the earliest modern research projects, *Suicide*, which used

² Burgess, Robert and Akers, Ronald. "A Differential Association-Reinforcement Theory of Criminal Behavior." *Social Problems*, Vol. 14, No. 2. (Autumn, 1966), pp. 128–147.

quantitative approaches in the field of criminology. Quantitative data was included for the first time in this publication, which was published in 1897 and included suicide rates for various demographics. This is the first time quantitative methods have been used in criminology research. Around 1915, scientists at the University of Chicago, who were investigating the city's enormous influx of newcomers, discovered the first instance of this phenomenon in the United States. As a result, it was a prime location for empirical investigations testing theories about criminal propensity. In order to conduct this research, they gathered data and statistics from documented convictions, the surrounding environment, and social encounters. There were a huge number of social scientists in the United States that produced criminology theories that were influenced by British criminology. Karl Marx, Cesare Lombroso, Jeremy Bentham, and Émile Durkheim were all early criminologists.³ In the late nineteenth century, criminology had a broader scope and contained theories comparable to sociology. The scientific study of crime, criminals, criminal behaviour, and corrections is a more modern and comprehensive definition of criminology. Compared to an earlier definition from the late 1800s, this one has gained more currency in the lexicon. As a science, criminology has remained largely unchanged in terms of how it is practised. There has been little or no change in criminology's research methodologies and theories over the years. In criminology, quantitative approaches are still heavily employed, and the methods of data gathering and analysis are extremely similar to what they were when the field initially evolved.⁴

The following are some examples of quantitative research methodologies: "the use of quantitative methods such as surveys and experiments to measure social variation in terms of discrete variables with varying magnitudes Quantitative data is everything that can be organised numerically or by some other metric" (Schutt 17).

While qualitative approaches are dependent on an individual's subjective interpretation of the data, quantitative methods strive to be more objective and unbiased by using the numerical findings of quantitative research as the basis for their analysis (Dantzker and Hunter 88).

Because of the possibility for bias in qualitative research, quantitative methods are used in the study of criminology. But there are numerous situations that can't be studied quantitatively. When it comes to personal ideas and debates, emotion plays an important role, rather than scientific research. The difficulty of quantitative research, however, justifies its use (Dantzker

³ Dantzker, ML, and Ronald D. Hunter. *Research Methods For Criminology and Criminal Justice: A Primer*. Butterworth-Heinemann, 2000.

⁴ Fox, James A., ed. *Methods In Quantitative Criminology*. New York: Academic Press, 1981.

and Hunter 88).⁵

III. DATA SOURCES IN CRIMINOLOGICAL RESEARCH

Today, social scientists employ a wide range of data to measure crime. To begin with, a definition of crime is required before we can begin measuring it. There are numerous definitions of crime, but Wilson and Herrnstein provide a simple one: "any act committed in violation of a law that prohibits it and permits punishment for its commission" (Maxfield 111). We can begin to quantify crime after we have a firm grasp on what it actually is.

Observing, victimisation reports, surveys of offenders, and utilising data that has previously been collected are the four most common methods for obtaining quantitative data on crime.

Observation is not the greatest method for determining the extent of crime. Observing crime or having it reported to the police are two ways police get their information about it, and both lead to the conclusion that not all crimes are accurately recorded. Take shoplifting, for instance. There are many situations where shoplifting goes unnoticed by the police or by other individuals, and it's not uncommon. As a result, criminal offences such as stealing or drug trafficking will not be fully accounted for.⁶

Statistics derived from police reports, such as the FBI's Uniform Crime Reports, can be used to estimate crime. As a result of this, these reports have the same measurement issues as have been mentioned previously. The UCR contains a number of mistakes. In the first place, the UCR does not count every recorded crime. In order to be counted, index offences, also known as Part I offences, must be reported and recorded by the police. As a general rule, there are always reports of crime, but the police may opt to not register them for various reasons. It is important to note that the UCR will only contain Part II offences if the arrestee has been officially charged with a crime, as separate states may differ in their enumeration and description of these crimes (Maxfield 113). The police hierarchy rule, which states that if multiple offences are committed in the same occurrence, only the most serious one should be included in the UCR, is another source of inaccuracy. However, don't discount the value of the UCR. Despite the fact that crime statistics are accessible for cities and states, the UCR data does not adequately depict individual offences; this is a limitation of the data.⁷

Inquiring as to whether or not someone has been a victim of criminal activity is an effective

⁵ Jones, Stephen. *Criminology*. New York: Oxford University Press, USA, 2006.

⁶ Matsueda, Ross. "Testing Control Theory and Differential Association: A Causal Modeling Approach". *American Sociological Review*, Vol. 47, No. 4. (Aug., 1982), pp. 489–504.

⁷ Maxfield, Michael G. *Research Methods for Criminal Justice and Criminology*. Ed. Earl Babbie. California: Wadsworth Publishing Company, 1995.

technique to get data. A survey is a common tool for conducting this type of research. Finding information that hasn't been reported to authorities; finding out about crimes that police have already investigated but haven't recorded; and providing data about the perpetrators, their victims, and their crimes can all benefit from surveying (Maxfield 115). The NCVS, or National Crime Victimization Survey, is a good illustration of this. The NCVS provides more information on individual victims, perpetrators, and occurrences, making it a superior tool for analysing the role of individual characteristics in crime victimisation studies. This is due to the survey's objective, which is to provide an overall picture of crime levels rather than specific figures for specific towns or states (Maxfield 116).

Similarly to victimisation surveys, surveys of offenders are used, but these are for the offenders. Surveys frequently count the number of offences an individual has committed. Prostitution, public order and delinquency offences, and seldom reported crimes like stealing are good candidates for this type of investigation. There are certain drawbacks to conducting surveys, such as the possibility of survey takers being dishonest or exaggerating their responses, but the information gleaned from these surveys is invaluable.

Because crime is so difficult to quantify, it is frequently preferable to utilise a combination of methodologies to get the most accurate statistics possible.⁸

IV. ADVANTAGES & DISAGVANTAGES OF QUANTITATIVE CRIMINOLOGY

To standardise data gathering and generalise conclusions, quantitative criminology is frequently utilised.

This strategy has the following advantages:

- **Replication**

Because of defined data collection techniques and concrete descriptions of abstract concepts, the study can be repeated.

- **Results that are directly comparable**

The study can be replicated in different cultural locations, at different periods, and with different groups of people. The results can be statistically compared.

- **A lot of samples**

Quantitative data analysis can be used to process and analyse data from large samples utilising

⁸ Technologies for Understanding and Preventing Substance Abuse and Addiction by DIANE Publishing Company (Editor), DIANE Publishing Company (Editor), DIANE Publishing Company, April 1996, ISBN 978-0-7881-2786-1, 250pp

dependable and consistent techniques.

- **Testing hypotheses**

Before getting to a conclusion, you must thoroughly analyse and report your study variables, predictions, data collecting, and testing methodologies using defined and established hypothesis testing protocols.

DISADVANTAGES OF QUANTITATIVE CRIMINOLOGY

- **Superficiality**

Complex concepts may be inadequately represented by using precise and limited operational definitions. In quantitative research, the concept of mood, for example, might be represented by a single number, while in qualitative research, it might be expressed with more detail.

- **Focus on a certain area**

One may overlook other significant observations if you use predetermined variables and measurement methodologies.

- **Bias in the structure**

Structured biases can nevertheless impair quantitative research, despite standardised techniques. Biases such as missing data, inaccurate measurements, or ineffective sampling procedures can lead to incorrect findings.

- **The absence of context**

Quantitative research frequently takes place in unnatural environments, such as laboratories, or ignores historical and cultural circumstances that may influence data collecting and conclusions.⁹

V. QUANTITATIVE CRIMINOLOGY AS A SEPARATE BRANCH OF STUDY

Crime data is at the heart of quantitative criminology research in particular and social science research in general. In the past years, many sources of crime data have been proposed to understand, describe and explain crime and criminality, but never before have the majority of these sources been tested using a huge number of crimes and applying different multivariate methods.¹⁰ A large-scale analysis and comparison of various sources of crime data is crucial if current analytical methods are to be used effectively and if new and more powerful methods

⁹ Siegel, Larry. *Criminology*. St. Paul: West Publishing Company, 1995.

¹⁰ Sampson, Robert J. & Groves, W. Byron; *The American Journal of Sociology*, Vol. 94, No. 4. (Jan., 1989), pp. 774–802.

are to be developed. This article presents the results of a comparison of the four main sources of crime data commonly used in quantitative criminology, in order to determine the best data source that can tell the whole truth about the extent or the true level of crime occurring in a society. Based on the results of these tests, a more comprehensive approach to measure crime is proposed, which represents all categories of crime and covers the offences committed. The result of the analysis is empirically-based, objective, and replicable evidence which can be used in conjunction with existing literature on the quantitative methods in criminology.

There aren't many organisations that offer instruction, research, or practise in criminology at the undergraduate and post-graduate levels. The situation has resulted in a number of unintended consequences. In India, for example, there were no scholastic positions or a large academic community in criminology.

India's criminal justice system did not allow for the development of a clear beneficiary base. In the field of criminology, the connections between education and vocation are murky and unknown. Criminologists who made admirable contributions to the field remained apathetic about the development of criminology in India since they were frequently affiliated with their parent-teachers.

Essential research in criminology in India has been essentially nonexistent, which has hindered the development of theories to explain severe culpability difficulties in this country. Criminologists, on the other hand, have not had the option of approving approaches and initiatives based on the findings of their investigations. Indian criminology too needs international attention and recognition. When criminology is taken as a whole, it becomes clear that it is a branch of study with narrow paths and limited vertical mobility in India.

VI. BENEFITS OF CRIMINOLOGY TO THE LEGAL SYSTEM

Almost the entire equity conveyance framework has been improved by advancements in criminology. It has revolutionised the human attitude to crime, which in turn has had a profound effect on both victims and perpetrators. What it does is provide us a deeper understanding of what causes crime and how it affects the rest of society. It has led to the development of increasingly particular regions, such as ecological criminology, which has made inroads, police methods, networks formed to police, and so on. If you've ever wondered why some events are considered as misbehaviour in some social structures but not in others, this book is for you. In addition, this contrasts between societies and social orders, lawful and unlawful, and so on.

Criminology investigates a variety of theories, including old-style, positivist, and so on, to help us understand why people commit crimes. People should commit crimes if they see a benefit

or if they are influenced by both internal and external causes, such as biological or social influences, according to the book's various ideas. All of this aids legislators and the executive branch in better understanding misbehaviour so that stronger and more extensive legislation can be enacted.

Depending on the severity of the offence, it proposes a realistic plan for balancing undesirable behaviour and controlling and preventing legal violations. Increasing the severity of punishments makes criminals more conscious of the repercussions of their criminal behaviour and activities. Crime rates are reduced as a result of this, as well. There are several ways to study criminal behaviour, but one of the most common is to look at the reasons why a criminal committed a crime in the first place. It is through the study of crime and punishment that we may better understand the motivations of criminals. In other words, it says that people can make their own decisions, therefore breaking a rule puts them in jeopardy of being rebuffed. A tough criminal equity framework can assist prevent wrongdoings by highlighting the harshness of the system. As well as preparing judges and prosecutors, it teaches the legal system how to recognise and prevent wrongdoing. Modern criminology pushes us to understand the primary causes of wrongdoing and provides us with the best technique to treat and prevent it in each of these ways, so assisting the equitable transfer framework.

VII. DESCRIPTIVE ANALYSIS AND COMPARISON

Quality of data must be analysed before use. It is helpful to have access to both the raw and published data for this study. Because there can be no bias in the comparison, it may be more telling than merely looking at the published data. The capacity to compare newly gathered data (primary data) with previously collected data (secondary data) is another essential research tool (secondary data). There are two ways primary data can help: first, new data can be confirmed by primary data, and second, disparities in the data might flag out areas of concern.

Nations can share information with each other. Census data or government-collected data are examples of this type of data. A wide range of social and political issues can be addressed through the exchange of information between different parts of the country.

Analyzing data throughout time is essential if we are to fully grasp the state of the world and the direction it is taking. Researchers have access to an almost unlimited amount of data thanks to the data they've amassed over time.

VIII. CONCLUSION

Criminology has to address the gaps and challenges found in the research study if it is to grow

and thrive as a field of learning and application. The UGC, ICSSR, and other institutions already working on this issue must show more interest in it. Crime research centres can be established by the UGC. It is also possible to raise this issue with government agencies and organisations, who may decide to include it in their hiring practises.

The Ministry of Human Resource Development or the University Grants Commission (UGC) can take care of this issue. This is something that organisations like the Indian Society of Criminology should be doing. Criminology researchers may be eligible for additional funding from the UGC and ICSSR. It's also possible to focus on the creation of standardised criminology course curricula.

Criminology is now integrating itself with the latest scientific and technical advances. This is the beginning of our journey into the future, and it is entirely dependent on the ability of our laws to adapt to current trends. Criminologists, who are well-prepared for the future and are willing to adapt to new conditions, should support our legislators in drafting new legislation. Indian criminology is projected to be future-ready as a result of a slew of new advancements. Through cutting-edge innovations, the subject of criminology can go forward and become a philosophy that can aid the country's equality framework on every front.
