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- Preventive Policing Compstat and Beyond
- Sleep Quality and Sleep Disorders in Police Officers
- Claim of Juvenility A Security for Ever
- Mental Health Issue Among Police Officer
- Corporate Governance in Infrastructure Industry
- A Perspective on White Collar Crimes in India
- An Evaluation of Various Technique of Measurement of Hot Spots of Crime
- Social and Workplace issues of LGBT community in India
- The Oblivion of Serial Homicide in the India Criminal Context
- Police Personnel are they Gainfully Employed

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It is a matter of pride for the editorial team to place the second edition of the Haryana Police Journal in your hands. The collection of articles in this issue covers a variety of topics related to police and authored by lawyers, professors, police officers and even some by students. Some may wonder about the relevance of academic journals in this age of internet and information at fingertips. However, the fact is that academic journals are still perceived as an important and robust method of publishing despite innovations in communication (blogs, monographs and other creative ways of communicating in the 21st century).

This journal aims to serve as the forum of researchers for the presentation of new research works, and evaluation of existing works of research. Its principal goal is to distribute knowledge of the most recent vintage or latest researches and breakthroughs. This could provide valuable insights for practitioners in the field. Some well-regarded standard practices or beliefs could even be debunked as new findings could provide alternative explanations for specific crimes or other events like law and order situations.

These are challenging times for the police in India as well as Haryana police. The country is taking its rightful place in the comity of nations as the largest democracy on earth. The role of police in preserving the rule of law has become one of critical importance. The same has been recognized by the Prime Minister of India when he called upon the police to become SMART, i.e. sensitive and strict; modern with mobility; alert and accountable; reliable and responsive; trained and techno-savvy.

The role of the police is not only vast but is also expanding. To handle the large number of service requests from citizens and to approach law and order issues, there is a need for a holistic approach. This means that problems must be identified, and stakeholders need to be determined. Once all concerned work in sync, there are better chances of achieving success in resolving these issues. There is an amazing amount of good work done by officers in the field. However, that work is not documented at times and the effort is not sustained. The experience gained through these initiatives can help achieve the desired goals of the criminal justice system. Sometimes, a new approach to critically analyse an issue is needed due to new judicial pronouncements from the courts or due to change in larger social conditions.

This edition of the Haryana police journal contains articles exploring such new avenues of thinking and encourages readers to gain relevant knowledge about latest developments. The writings cover a wide range of topics including white collar crimes, claims to juvenility, lessons from corporate governance, serial homicide, hotspots analysis techniques, mental health issues among police officers, and the role of the now famous policing technique of CompStat, first used in New York City and later in other cities, for preventive policing. The unifying thread of all writings is the achievement of the objectives of the criminal justice system of providing timely justice, development of SMART police, and to develop the professional knowledge base of police sciences in India.

■ *Dr Hanif Qureshi, IPS*
Editor

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PREVENTIVE POLICING COMPSTAT AND BEYOND



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Rakesh Arya IPS

Abstract

Police have the stupendous task of enforcing the Law of the land while respecting individual freedom and Civil Liberties. Initially, policing was primarily Preventive- cops patrolling/walking the streets/beats deterring crime by their presence (the 1830s). With the increase in crimes and social disturbances/turbulence, policing entered the phase of Reactive Policing (responding to calls/crime situations in mid-1900s). The introduction of helpline numbers/calling systems reinforced the trend of preventive policing. But the new system also had its own problems in terms of a surge in number of calls, decreasing number of police force and insufficient resources available to the enforcement agencies. To deal with all these challenges police agencies, particularly in bigger cities required much smarter ways/techniques of not only solving crimes but effectively preventing it, maybe by predicting it with the adoption of the latest information technology tools/techniques. The adoption of CompStat by NYPD in the 1990s was one such technological disruption that led to a remarkable reduction in crimes over the next two decades. It became a very successful experiment (not without criticisms, of course) to be adopted by other major police departments in the USA and beyond. Recently, other tools/techniques like predictive policing and big data analysis are also being used for the prevention of crime by the major police agencies all across the globe.

Key Words: Prevention of crime, CompStat, preventive policing, predictive policing

Introduction

A number of technological innovations and their adoption in Policing have taken place since Robert Peel's preventive policing of the 1830s in the UK. There has since been a debate about the adoption of various technologies in Policing work (crime prevention and detection) and its effectiveness all across the world. Initially, policing was primarily Preventive- cops patrolling/walking the streets/beats deterring crime by their presence. They got to know their neighbours and their neighbourhoods. With the increase in Crimes and Social disturbances/turbulence, the policing entered the phase of Reactive Policing (mid 1900's). Instead of a benign presence, designed to prevent crimes, the cops started spending more and more time in their patrol cars, responding to calls. They were also able to cover more area with enhanced frequency in their beats. The introduction of helpline numbers/calling systems reinforced the trend of preventive policing and cops got a 'new toolbox of crime solving technique' (Black, 2016).

But the new system also had its own problems in terms of surge in number of calls,

decreasing the number of the police force and insufficient resources available to the enforcement agencies. The limited number of manpower was not able to keep up with the demands for their services. To deal with all these challenges police agencies, particularly in bigger cities required much smarter ways/techniques of not only solving crimes but effectively preventing it, maybe by predicting it with the adoption of the latest information technology tools/techniques. Till early 1990s, reactive policing (responding to calls/crime situations) methods dominated the New York Police Department (NYPD) which focused on improving in two areas- responding to calls and investigating major crimes. They neglected the third and important part of policing that is preventing disorder(Black, 2016).

The present paper discusses how the prevailing crime situation in New York led to the adoption of CompStat- a technological innovation by the Mayor/Commissioner of New York City in the early 1990s. It also elaborates on the implementation (what it takes) process of CompStat and the challenges faced by the police leaders of the New York Police Department (NYPD) in implementing the innovation. Further, the paper critically analyses how the adoption of CompStat led to a major reduction in crimes and improved quality of life indicators for the city of New York. It concludes with the discussion of the future of CompStat and like processes in policing, and recent technological trends like predictive policing and big data analysis in preventive policing.

MOTIVATION

The New York Police Department adopted the CompStat program which is an interplay of technology, communication, and organizational change. The single most important motivation to adopt CompStat was to reduce major crimes and improve the quality of life indicators for the citizens in the city of New York. The prevailing high crime rate was a major concern for the residents of the city in the early 1990s. This issue also played a prominent role in the Mayoral Elections of the City in 1993. Lou Anemone, NYPD's chief of Department in 1994, said that during the early 1990s "there was very bad violent crime and pervasive fear of crime in the community, and this likely contributed to Mayor David Dinkins' loss to Rudy Giuliani in 1993" (CompStat: its origin..., Police Executive Research Forum, 2013, p.3). The new mayor picked up Bill Bratton as the new Commissioner of Police. They made a vision of making the New York city safe, reduce the fear of crime, and improve their quality of life(CompStat: its origin..., Police Executive Research Forum, 2013).

Another important factor that led to the adoption of this program was to enforce accountability amongst the rank and file in the organization. So far, nobody at whatever level was willing to take responsibility for the ongoing high rate of violent/major crime situation in the city and were just responding to the crimes happening thinking that this is inexorable and nothing much can be done about that. Their effectiveness was being measured by their 'response time, arrest statistics and clearance rates' (CompStat: its origin..., Police Executive Research Forum, 2013, p.3). John Timoney, the former NYPD chief of the department said, "the focus of the NYPD in the last 20 years had been reducing police corruption. No one had ever asked, 'how can we reduce crime?' there really was a belief that the police could not do anything about crime, that because we

could not fix the ‘root cause’, we could not have an impact. But the community wanted the focus on crime, and we changed that” (CompStat: its origin..., Police Executive Research Forum, 2013, p.3-4). This was the prevailing thought/paradigm of their times. However, Bill Bratton rejected this position and said that “he would knock down the standard criminological theories about what caused crime waves, like ducks in a row” (CompStat: its origin..., Police Executive Research Forum, 2013, p.4).

There was no systematic crime statistics available and being used for crime analysis. The crime data was just being collected and fed to the Federal Bureau of Investigation (FBI). Whatever data was made available/being compiled was available only with a time lag of three to six months. Six months old data was of little use to the police executives and because it does not tell you anything about the recent crime trends- when and where the crime is happening. They also ‘cannot be used to develop strategies and tactics that will have an immediate impact on crime’ (Vincent: CompStat Management in NYPD, p.105). This was another reason to introduce CompStat what Bratton described as ‘a new data driven system to track crime statistics and have police respond to those statistics’ (CompStat: its origin..., Police Executive Research Forum, 2013, P.3).

ADOPTION

In Policing, most police executives and managers are guided by the traditional and established models of policing i.e. Professional Model and the Community Policing Model. They generally continue to operate within these narrow management methods which didn’t encourage innovation. They don’t strive ‘to stretch the potential boundaries of performance’ and remain satisfied ‘at best with incremental improvements’ (Vincent: CompStat Management in NYPD, p.107). But the new commissioner did not believe in old and traditional approaches of policing and wanted to stretch the potential boundaries of performance. He wanted an effective solution for a large number of major crimes and the all-pervasive fear of crime in New York City. As a transformational leader, he introduced CompStat which was an innovative solution for crime reduction and improving quality of life indicators. It was not adopted/dropped from any other outside agency and rather evolved within the organization overtime. It was an outcome of regular and intense analysis of crime patterns and trying out innovative methods to control crime based on the feedback/learning from the experiences and the practices of various field commanders.

It is not that there was no use of information technology in Policing before CompStat was adopted by the New York City Police Department. Several technological innovations like Crime Mapping (hot spots), Criminal History Data Systems Enhancement, Watchlist of Potential Violent Offenders, Risk Assessment, Threat Assessment, Monitoring Individual Transactions and Communications (on cell phone and over internet) were available and being used by various Police Departments in their day to day policing(Byrne and Marx, 2011-3). The major difference between these innovations and the CompStat was that all of the above-mentioned technological interventions were being used to detect/solve the crime and not for the prediction and prevention of crime. There was also no systematic analysis of crime patterns and the deployment of resources to break these patterns.

No major funds were involved in the adoption of this technological innovation. The New York Police Department ‘started with a computer from Radio Shack and the name CompStat was born’. The name is short for ‘Computer Statistics’ or ‘Comparative Statistics’ (CompStat: its origin..., Police Executive Research Forum, 2013, p.4). This system allowed police to track crime incidents as soon as they occur. All the information related to the crime, the victim, the date and time of the incident was collected to spot the emerging trends. It was displayed by Computer generated maps to figure out where and when the crime is occurring citywide. Using the high tech “pin- mapping” approach, police used to quickly identify the trouble spots and target resources to fight crime strategically (Vincent: CompStat Management in NYPD, p. 103). So, the adoption of CompStat by the New York Police department was a paradigm shift (changed the focus of NYPD) from reactive policing to preventive policing by predicting crimes.

IMPLEMENTATION

The CompStat is said to be modelled on the ‘Broken Windows Theory’ given by James Q Wilson and George L. Kelling (1982), whereby minor crimes (quality-of-life crimes) would be addressed in order to reduce major crimes. However, overtime, its use evolved into a system whereby productivity was measured, and individuals were held accountable for spikes in crimes in their areas of Jurisdiction. The CompStat was introduced with simple data collection, and mapping and analysis of crime trends, and with time, this process/technique evolved into a robust Strategic Planning to effectively reduce crime and improve the quality of life of citizens of New York City. NYPD’s initial approach was ‘to map crime statistics along with other indicators of problems, such as the location of crime victims and gun arrests, etc.’ (CompStat: its origin..., Police Executive Research Forum, 2013, p.4). The CompStat process introduced comparison and analysis of crime trends/statistics along with the transformation of organization structure and strategic management. There was no ready-made solution to be replicated to achieve the desired objectives of crime prevention and quality of life improvement. The CompStat evolved during the process of its implementation. It was “designed as an innovation essentially to fix what Bratton felt was a dysfunctional organization...CompStat was developed as a management tool, specific to NYPD, in an attempt to bring down crime” (Eterno and Silverman, 2005, p.220). The four ‘Core Components’ developed by NYPD Deputy Commissioner Jack Maple became the foundation of the CompStat. These four generally recognized ‘Core Components of CompStat’ are: a) Timely and accurate information or intelligence b) Rapid deployment of resources c) Effective tactics; and d) Relentless follow-up.

CompStat is a dynamic approach to crime reduction, quality of life improvements and personnel and resource management. It is, misunderstood, oftentimes as ‘a management tool, portrayed as a high-pressure meeting between executives and middle managers, and as a system for sharing important management information’. It actually involves all these. (Vincent: CompStat Management in NYPD, p.103). An effective CompStat program is much more than holding meetings. Other than crime prevention, it became an effective tool for the measurement of the performance of field officers. The precinct commanders had to present the comparative crime situation in their jurisdiction over the last week/month. This made it easier for senior executives to

evaluate officers' performance and take decisions regarding putting high achievers on key positions and shifting/kicking out the laggards. This process is not a solution in itself but a tool for 'strategic problem solving'. Through deliberations and discussions in the regular crime meetings, the officers used to find innovative solutions for the crime problems in the city.

This tool also provided all the 76 precinct commanders more flexibility in terms of deploying the available resources, using innovative techniques for crime prevention and achieving other departmental goals. In the meetings, officers from different geographical areas were selectively invited to discuss their problems and efforts/successful methods of controlling crime. Each one of the precinct commanders were made to discuss their specific crime problems and the efforts being made/methods adopted to solve the problem. During the analysis of crime trends and deliberations of successful strategies to reduce crime, the officers would come out with a strategic plan for the specific problem areas to effectively control major crimes there. The precinct commanders used to be accompanied by 'patrol officers, detectives staff supervisors, narcotics and vice squad commander, and ranking personnel from every operational and investigative unit' from their areas of jurisdiction to attend these weekly meetings and share crime related information. Their presence ensured better cooperation and effective coordination amongst different wings of the police department to get quick and better results. Overtime, the CompStat process became a very successful strategy not only to reduce major crimes substantially but also as a performance measurement tool available to the senior police executives.

The successful implementation of CompStat required transformation in NYPD's organizational structure, culture, and mindset, and these factors along with many others posed major challenges to the police managers/senior executives. The first and foremost challenge came from within the Organization. There was a need for organizational transformation to achieve the desired results. Explaining the organizational transformation in terms of James Q. Wilson's (1977) three styles of policing, before CompStat, NYPD was mainly 'service oriented' – 'Police will take all requests seriously but are less likely to make an arrest or summons the perpetrators' (Eterno and Silverman, 2005, p.222) and 'reactive' (responding to emergency calls). To transform NYPD from service to 'legalistic- where police make many arrests and summonses' and more aggressive policing, was a challenge to the police leaders. "This was a drastic change for the NYPD: from 'service and the beat cop' to 'crime and commanding officers' (Eterno and Silverman, 2005, p. 222).

The Precincts commanders were made to attend the crime meetings held by the officers much senior in rank to them and explain/defend the crime scenario, and the steps are taken to combat crime in their respective areas of jurisdiction. This threw another organizational challenge and rather a cultural shock mainly to the subordinate officers who were used to the typical hierarchical and rigid bureaucratic setup and communicating within their respective chains of command.

CompStat was an absolutely new method of policing, supervising and fixing accountability of field level officers by directly holding them responsible for the outcomes of their

efforts of crime prevention. Communication within and outside of organization (to all the stakeholders) about the efforts being made to reduce crime and the processes involved in CompStat posed another important challenge for the effective implementation of this innovation. Middle level managers and the ranks and files were also required to be convinced about the importance of freely sharing information/intelligence and the new methods and strategies being adopted for combating crime by the Precinct commanders and mid-level managers. This was particularly relevant to an organization ‘where isolation and turf protection and the hoarding of information previously reigned’ (Vincent: CompStat Management in NYPD, p.103).

Coordination and cooperation with other agencies of Government - especially the criminal justice system also posed an important challenge in the successful implementation of CompStat. Police agencies regularly interact with prosecutors, courts, corrections, and probation and parole officers, and all these agencies are very much interdependent in their day to day work. Any breakdown in communication between these agencies may lead to serious dysfunction of the criminal justice system and miscarriage of justice to the victims of crime. Political leadership (Both Mayors - Giuliani, and Bloomberg themselves) came to their rescue and used their influence to ensure better coordination among various agencies of the criminal justice system which helped New York Police achieve ‘impressive’ results.

CRITICAL ANALYSIS

This system has been studied, discussed and adopted for more than two decades now. Many prominent criminal justice academicians and police leaders (Kelling, 1995; Kelling and Coles, 1996; Silverman 1998, 1999) are convinced that the ‘CompStat based innovative and problem-solving processes’ are responsible for New York city’s falling crime rates (Vincent: CompStat Management in NYPD). The CompStat by NYPD has also been one of the most discussed topics of contemporary law enforcement agencies and the criminal justice field. This is clear by a large number of Police executives and academicians who have visited the NYPD to study its innovative management methods and problem-solving activities. The radically new and thoroughly dynamic police management process known as CompStat achieved tremendous success in unprecedented crime reduction and improving the quality of life of citizens of New York City. Although difficult to quantify, the quality of life indicators also improved substantially and there has been a ‘positive change in the sense of safety and civility throughout the city’

Major Felony Crime in New York City, 1993 to 2003 By Number and Percentage (NYPD Data)					
Crime	1993	1997	%Change v.1993	2003	%Change v.1993
Murder	1,927	767	-60.2	598	-68.9
Rape	3,225	2,782	-13.7	1,875	-41.8
Robbery	85,892	44,335	-48.3	25,919	-68.8
Felony Assault	41,121	30,259	-26.4	18,774	-54.3
Burglary	100,936	54,866	-45.6	29,215	-71.0
Grand Larceny	85,737	55,686	-35.0	46,877	-45.3
Motor Vehicle Theft	111,662	51,312	-54.0	23,139	-79.2
TOTAL	430,460	240,008	-44.24	146,397	-65.99

(Vincent: CompStat Management in NYPD, p.101). Major indicators of Quality of life improvement are less graffiti on walls, fewer hooligans with loud “Boom-box radios”, a smaller number of panhandlers and “squeeze pests”. This also includes a decreasing number of arrests for narcotics offences (Vincent: CompStat Management in NYPD, p. 102).

Comparative Crime figures of the New York Police Department suggest a substantial reduction in absolute crime numbers and rate of felony (a crime involving violence and more serious than a misdemeanor) crimes in the city. It declined at an unprecedented rate since the introduction of CompStat in 1994 (particularly during the initial 10-15 years) and New York remains to be the safest large city in the United States. After the adoption of CompStat in 1994, the overall level of crime in New York city - both in terms of the actual number of crimes and the rate of crime reached its lowest point since 1963. Although there has also been crime reduction in other cities/states of the USA during this period of time, the decrease in New York City was not only the highest amongst states but it contributed substantially to reduce the average national crime rate. A total number of reported crimes for 7 major categories declined from 430,460 to 146,397 i.e. by 65.99% in 10 years from 1993 to 2003.

See table below: (Source: CompStat Management in NYPD By Vincent E Henry (Dr), P. 114 --Resource Material Series No.68).

The CompStat received the Innovations in American Government Award in 1996 for being an effective and successful management tool. It was one out of five recipients (total 1500 entries) of this award conferred jointly by the Ford Foundation and Harvard University's John F. Kennedy School of Government.

However, the CompStat process has been questioned and criticized for many reasons. First and foremost, the relationship between CompStat and crime decline per se has been debated by many scholars (Eck & Maguire, 2000; Karmen, 2000; Rosenfeld, Fornango&Baumer, 2005; Silverman, 1999, 2001 as cited in Eterno and Silverman, 2005). The CompStat process raised concerns about the ‘due process’ of law being followed while enforcing crime prevention measures as civilian complaints against police for allegedly illegal searches increased by 135% in the first two years...illegal vehicle searches jumped by 108%....and allegations of illegal apartment searches shot up 179% (Eterno and Silverman, 2005). There were also allegations of abuse of authority by the officers and alienating the minority community by indiscriminate excesses on them. Another problem with CompStat is its centrally controlled and inflexible management style which alienated not only members of the community and but also its own officers. The leadership practiced the ‘top-down order transmission’ and ‘bottom-up reporting’ approach which represses innovation and creativity among the lower ranks. This practice further led to the rigidity in the approach of field officers while dealing with members of the public ‘resulting in increased isolation and hostility between police and community’ (Eterno and Silverman, 2005, p. 223). CompStat also seems to have intended to introduce ‘a traditional bureaucratic model of command and control’ (Weisburd et al.,2003, p. 448). CompStat has been perceived as ‘a legalistic-style number game combined with leadership by fear’(Eterno and Silverman, 2005, p.223).

CompStat hit the motivation level of field commanders and officers on the street. The field level officers were humiliated in the presence of their colleagues and branded/berated for their failure to control crime. Their only worry was 'to get by the next CompStat meeting' scheduled to discuss/review their work. Moreover, the senior executives used to take credit for the good work of their field commanders. The field commanders were supposed to bring down crime immediately or forgo their promotion. Members of the force were working in an atmosphere of uncertainty and competition. The precinct commanders also felt threatened in the meetings being directly exposed/answerable to the highest rank officials in the organization/hierarchy and the mid-level felt ignored/redundant. There was a cultural shock to many who had to give explanations for their work in front of media persons and the common people from the community as both these stakeholders were also sometimes invited to attend CompStat meetings. Thus, CompStat failed to motivate the vast majority of officers (Eterno and Silverman, 2005).

This method propagated the 'legalized way of policing' which needed aggressive policing to achieve results/push the crime rates down. Some of the officers were doing so at the cost of violating the basic human and legal rights of the citizens. The 'increase in illegal behaviour by street officers also seems to be the by-product of CompStat' which was later controlled by introducing technologies like body cameras for street officers etc. (Eterno and Silverman, 2005, p.225). There was also a 'turf war' among the field officers who did not want to share vital information related to crime and criminals in the meetings fearing to lose their professional advantage. There was lesser emphasis on community policing- an established practice that seemed to be effective/working well for many areas in New York City. There has also been an even lesser emphasis on skill enhancement and the morale of the workforce(Weisburdet al.,2004). The centralization and over-emphasis on crime numbers led to the lack of empathy among the field officer. They would not aggressively seek victims of rape, domestic violence, and child abuse, etc. as it would add to the crime numbers in their jurisdiction to their disfavour. There have also been allegations of manipulating/fudging of crime data to keep the crime figures low.

CONCLUSION: Compstat And Future Policing

The CompStat has received a lot of attention from media, academics and senior executive heads of Police. The CompStat has not only been studied extensively but replicated/adopted by many other State/City police departments of the USA. It has proved to be a very successful technological adoption by NYPD giving them remarkable results. Its success in NYPD has led to the adoption of CompStat or like programs all across the USA by police agencies. CompStat has now become an integral part of policing all across the US and many other parts of the world. This process has mainly been adopted by relatively larger police departments who have the 'expressed desire to reduce serious crimes and increase management control over field-operations'(Weisburd et al., 2004, p.15). It is likely to continue evolving with more policing innovations and technological advances. Advancements in information and computer technology will further enable police agencies to quickly and accurately identify crime problems and deploy their available resources more efficiently. Shrinking public sector budgets also requires more efficient policing which can be achieved through the adoption of CompStat like processes and/or other

advanced technological innovations. These processes shall also help to ensure that ‘police resources are closely monitored and used efficiently’. CompStat has been a critical effort to achieve greater responsibility and accountability. It helped pushed the accountability down to the first line of supervisors and officers. It has also become an important tool in the hands of senior police hierarchy to measure the performance of their personnel/field commanders. The CompStat has also been accepted and adopted by many law enforcement and non-law enforcement agencies e.g. Municipal Corporations (CompStat: its origin..., Police Executive Research Forum, 2013).

Despite its adoption by many police agencies, a word of caution about its emulation is required. This should not be done mindlessly as there are several criticisms of NYPD’s CompStat process. First of all, the relationship between the CompStat and major crime reduction as such has been debated by many scholars (see critical analysis above). There have been a number of other serious criticisms of the process of CompStat e.g. concerns regarding following the due process of law, violation of civil liberties and rights, the empathy of officers, data manipulation/fudging, ignoring the established methods of policing and the like which are serious in nature having far-reaching implications. These criticisms need to be duly considered before deciding on the adoption of CompStat and the like programs by any police agency. There are certainly consequences of simply emulating and adopting any technological innovation (Mimetic Isomorphism). Before adopting CompStat we “need to learn and embrace the lessons of CompStat, but modify it so that we focus on problem-solving, services and, most importantly, protecting the freedoms and rights that are part of the democratic society we so deeply cherish” (Eterno and Silverman, p.229).

CompStat is said to be the forerunner of predictive policing. The recent techniques being used for crime prediction (to prevent crime) are ‘predictive policing’ and ‘big data analysis’. These are said to be the future of policing. “Predictive policing used to be the future,” said William Bratton, “and now it is the present”. The predictive policing seeks not just to fight crime, but to anticipate and prevent it. It uses cutting edge technologies and big-data to identify high risk areas. The aim is not to make arrests but to deter crime before it occurs (Black, 2016). The predictive policing ‘tries to harness the power of information, geospatial technologies and evidence-based intervention models to reduce crime and improve public safety’ (Definition by National Institute of Justice, US). Whereas, the big data analysis is the complex process of examining large and varied data collected from different sources to uncover information including hidden patterns, trends, unknown correlations that help organizations make informed decisions.

Since the adoption of CompStat by NYPD, the above two techniques are also being used by NYPD in some form or the other, at least on a trial basis if not fully co-opted with their ongoing program. “We are testing both PredPol and a new system, HunchLab,” Bratton explains. “we have not committed to either. In the meantime, we have developed our own predictive model that we are field-testing against the other two.” (Black, 2016).

So far as the adoption of preventive policing methods by developing countries like India is concerned, who are facing similar challenges of high crime rates and low quality of life indicators but in a different setting along with lot of strain on resources available, it can give police agencies a

big boost not only in terms of effective crime prevention but also saving a large number of scarce resources. Some State police departments like Delhi Police have already started using the predictive policing methods/technologies (CAMPS- Crime Mapping, Analytics, and Predictive Systems) with encouraging results. It is high time now for other police agencies too in India to start using predictive policing (in some form or the other) to deal with the crime epidemics by adopting the ‘future technologies of policing’ to fulfil the aspirations of its people.



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SLEEP QUALITY AND DISORDERS IN POLICE OFFICERS



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Abstract

Police officers are susceptible populations for poor sleep and the occurrence of sleep disorders. Long working hours, irregular shift work and exposure to traumatic events make them a group vulnerable to sleep restriction and sleep disorders. Short sleep duration in police officers has been shown to be associated with obesity, hypertension, and metabolic syndrome and increases the risk of cardiovascular disease. The association of poor sleep with poor mental health and depression is also proven. A strategic intervention to makeshift duties more aligned to circadian rhythm and promotion of sleep hygiene among police officers is required.

Key Words: Circadian rhythm, sleep disorder, police officers, sleep hygiene, hypertension

Introduction

Policemen have long working hours, shift duties, exposure to stressful environments, long driving hours and frequent exposure to traumatic events. They often have to make quick decisions in complicated and ambiguous situations (Fekedulegn et al., 2016; Rajaratnam et al., 2011; Vila, 2006). This places them at risk for poor sleep quality, the occurrence of sleep disorders and excessive fatigue, increasing the probability of fatal and non-fatal accidents among officers themselves and the general public (Fekedulegn et al., 2016). Short sleep duration predisposes to chronic health conditions such as obesity, diabetes, hypertension and cardiovascular disease (Buxton & Marcelli, 2010). Some studies have systematically studied the effect of poor sleep quality in police officers. Figure 1 depicts the country-wise distribution of studies on sleep quality in police officers, a meta-analysis of which has been published recently (Garbarino, Guglielmi, Puntoni, Bragazzi, & Magnavita, 2019).

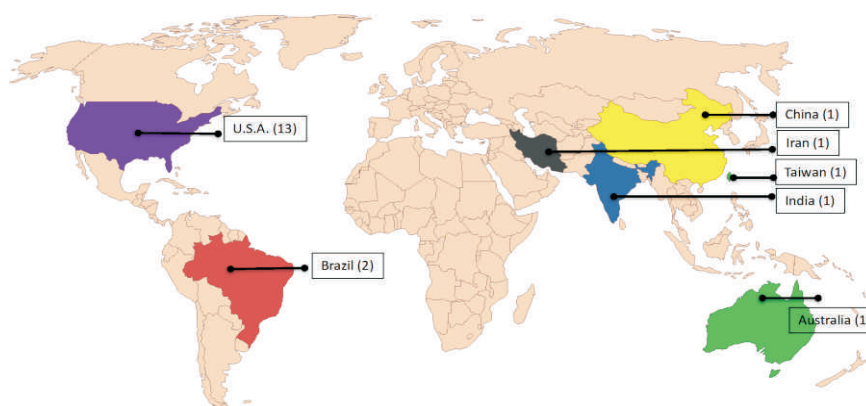


Figure 1: Data on sleep quality in police officers is available from the countries depicted in the figure. Parenthesis represents number of studies from each country. Data sourced from: Garbarino, S., Guglielmi, O., Puntoni, M., Bragazzi, N. L., & Magnavita, N. (2019). International Journal of Environmental Research and Public Health, 16(5).

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Sleep Quality

Cardiovascular disease risk factors, organizational and operational stress, and depressive symptoms were assessed in police officers with poor and good sleep in the USA (Everding et al., 2016). Among 379 police officers, 39% had poor sleep quality. In this study, poor sleep was found associated with poor mental health but not with cardiovascular disease risk. Sleep quality has also been associated with symptoms of depression in police officers. By using self-reported sleep quality and Centre for Epidemiological Studies Depression questionnaire, it was shown that as the quintiles of PSQI increased, signifying poor sleep quality, depression symptoms also increased. The change was seen in both male and female police officers (Slaven et al., 2011).

Job stress has been found to be at high levels in the Haryana police. In a study of 827 police officers of Haryana, Qureshi et al. (2019) found that job stress lowers job involvement. One of the ways to reduce job stress is to have better sleep quality as disturbed sleep is a known risk factor for high stress levels.

Neylan et al., (2002) have reported a high prevalence of disturbed sleep in 551 police officers from New York, Oakland, and San Jose police departments. The high prevalence of disturbed sleep was not explained by shift duties alone. They attributed the poor sleep quality to the stressors faced routinely in the work environment by the police officers. Also reported was a much higher correlation of exposure to critical incidents to nightmare occurrence and only a weak correlation to sleep quality. They reported much poorer sleep quality in those with variable shift work than those with stable shift work duties. A correlation of poor sleep quality with post-traumatic stress disorder was also reported. Bond et al have examined the association of exposure to a traumatic event with sleep quality and quantity in the BCOPS study cohort and reported a significant association between frequency of occurrence of certain traumatic events and sleep quality in both male and female police officers (Bond et al., 2013). There was a higher association of hyperarousal symptoms of insomnia and startle syndrome in male officers who experienced high personal threats (McCaslin et al., 2006).

Obstructive Sleep Apnoea

In a study in 1039 police officers (Pan, Ou, Chen, Hong, & Liu, 2019), 22% were reported to be at high risk of obstructive sleep apnoea as assessed by the Berlin questionnaire and 9.9% were diagnosed with obstructive sleep apnoea by home sleep testing. They found that age and severity of hypertension were risk factors for the development of obstructive sleep apnoea.

Metabolic syndrome

It is proposed that short sleep duration may predispose to hypertension and cardiovascular disease by an increase in body weight and changes in glucose metabolism/diabetes. When sleep was restricted by 4 hours every night for two consecutive nights in lean and healthy young adults, the ghrelin to leptin ratio increased and subjects reported increased cravings for calorie-dense and carbohydrate-rich foods (Spiegel, Tasali, Penev, & Van Cauter, 2004). Ghrelin and leptin regulate satiety and hunger, respectively. Prospective cohort studies have demonstrated that sleep

restriction leads to metabolic and endocrine changes that increase appetite and hunger, leading to a significant relationship between short sleep duration and increased body mass Index (Gangwisch, Malaspina, Boden-Albala, & Heymsfield, 2005; Patel, Malhotra, White, Gottlieb, & Hu, 2006). Hall et al (Hall et al., 2008) have examined the relationship between self-reported sleep duration and metabolic syndrome and reported an independent association of sleep duration with three components of metabolic syndrome: abdominal obesity, elevated glucose, and elevated triglycerides. The prevalence of metabolic syndrome was found to be 33% among police officers in a study (Yoo & Franke, 2013). They did not report a correlation with sleep quality and long sleep duration was found to be associated with metabolic syndrome. They have attributed the difference in findings from other studies that have linked short sleep duration to metabolic syndrome as being due to different study population characteristics. They found an association of both poor sleep quality and short sleep duration with depression symptoms, burnout and stress. In a study correlating occupational stress and metabolic syndrome among police officers (Garbarino & Magnavita, 2015), the highest levels of stress have been associated with markers of metabolic syndrome like significantly higher mean levels of triglycerides and lower levels of HDL cholesterol as compared to lower levels of stress.

Shift Work

Shift work is known to disrupt circadian sleep wake rhythm and lead to poor sleep quality and adverse health outcomes. Police officers frequently work for extended durations and in stressful conditions (Vila, 2006). In-phase and out-of-phase duty schedules in police officers have been studied (Yadav, Rani, & Singh, 2016) and improved sleep quality was observed on poor sleepers but no effect was seen on sleep quality in good sleepers. In a study on 48 police officers with night shift duty and severe obstructive sleep apnoea (Verde-Tinoco et al., 2017), their sleep architecture was found to have an increased number of cortical arousals, increased apnoea hypopnea index and sleep latency and lower scores of oxygen saturation through the night. There were two groups the results were compared to, in one group there were 48 subjects with diurnal work time and severe obstructive sleep apnoea, in another there were 11 healthy controls. In a study in 363 police officers of Buffalo, New York Police Department, it was shown that poor sleep quality was 70% more prevalent in officers doing night shifts and 49% higher in those doing afternoon shift as compared to morning shift workers (Fekedulegn et al., 2016).

Long working hours, stressful work environment and shift work may all contribute to the development of poor sleep quality. A proposed mechanism is the disruption of circadian rhythm by exposure to light, but the exact mechanism is not yet known (Fekedulegn et al., 2016).

Shift work is also associated with an increased risk of injuries. From the Buffalo Cardio-Metabolic Occupational Police Stress (BCOPS) study, the incidence rate of injuries was found to be 72% higher in midnight shifts than the day shift (Violanti et al., 2012).

Drugs for sleep and drugs for wakefulness

The need to stay alert during work shifts misaligned with circadian rhythm and increased stress and demands at the workplace leads to increased use of sleep-promoting and wake-

promoting drugs, which may make the users vulnerable to poor health, performance and safety outcomes. In a study on 4957 police officers from North America (Ogeil et al., 2018), 20% were found using sleep promoting drugs and drugs causing sleepiness, 28% were using wake promoting agents which included drugs (5%), high levels of caffeine (23%) and smoking (4%). The use of sleep promoting drugs was associated with increased near-crashes, fatigue-related errors, higher stress and higher burnout in police officers. Stress and burn-out and increased number of fatigue-related errors were associated with wake promoting agents use.

The incidence of overweight and obesity has increased in the general population and police officers alike. This increases the risk of development of obstructive sleep apnoea, arterial hypertension, diabetes, and myocardial infarction. The results from myriad studies suggest that police officers in irregular night shift duties, those with decreased sleep duration and sleep disorders are at higher risk for cardiovascular diseases, metabolic alteration, and cognitive impairment. A strategic approach to improve sleep quality and treat sleep disorders in police officers will lead to improved work efficiency and reduced morbidity.



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CLAIM OF JUVENILITY: A SECURITY FOR EVER



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Abstract

Children are the future of a nation. Therefore, they are to be protected against exploitation and provided with all the facilities to grow in a healthy environment. For those unfortunate ones who come in conflict with the law or who are orphans and deserted or abandoned by the parents, the Juvenile Justice (Care and Protection of Children) Act 2015 provides a complete scheme of doing justice and ensuring care and protection. A claim of juvenility is a very important and relevant concept in the juvenile justice system. The concept envisages eternal security for the children below 18 years of age. This security is a guarantee that all children get due care and protection, as they are entitled to under the provisions of the juvenile justice laws. Children can claim juvenility before any court and at any stage of the proceedings under the JJ Act 2015. The claim of Juvenility is a shield available to all children against the rigor of criminal justice processes as well as provides them a protective umbrella against all moral and material abandonment.

Key Words: Juvenile Justice Board, Extension of Juvenility, Presumption of Age, Determination of Age, Review of Sentence.

Introduction

As per Article 15(3) of the Constitution of India, State can make special provisions for the welfare of children. Article 39(f) enshrined in Part IV of the Constitution enjoins the State to make policies for children in order to give them opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity. Childhood is to be protected against all kinds of exploitation. In fulfilment of the constitutional mandate and international commitment, and being signatory to United Nations Conventions on the Rights of the Child 1992, United Nations Standard Minimum Rules for Administration of Juvenile Justice 1985, United Nations Rules for Protection of Juveniles Deprived of Their Liberty 1990, the Havana Convention on Protection of Children and Co-operation in respect of Inter-country Adoption 1993 and other related international instruments, Indian Parliament enacted the Juvenile Justice (Care and Protection of Children) Act 2000 (56 of 2000). The Act was repealed and another consolidated Act namely The Juvenile Justice (Care and Protection of Children) Act 2015 (2 of 2016), called JJ Act 2015 hereinafter, replaced it. The Juvenile Justice (Care and Protection of Children) Rules 2016 (JJ Rules 2016) were framed under the JJ Act 2015. Both these documents provide a comprehensive scheme of Juvenile Justice and for Care and Protection of Children. It would be worthwhile to examine the concept of a claim of juvenility contained therein and explore the protective cover offered by it.

Concept of Juvenility

As per section 2(35) of the JJ Act 2015, 'juvenile' means a child below the age of eighteen years. Under the Act, Children have been divided into two categories, namely, 'Child in conflict with law' (CCL) and 'Child in need of care and protection'(CNCP). CCL means a child who is alleged or found to have committed an offense and who has not completed eighteen years of age. CNCP means a child who falls in any one of them (xii) categories enumerated in section 2(14) of the JJ Act 2015. Generally, children who are orphans or abandoned by parents, missing or runaway children, children vulnerable to exploitation and abuse because of their socio-economic background, mentally ill or physically challenged children, children victims of armed conflict, civil unrest or natural calamity or children who are at risk of marriage are classified as CNCP.

In the aftermath of the Nirbhaya episode, people demanded that mature children between 16 to 18 years of age should be categorized separately and they need to be tried as an adult. Government succumbed under public pressure and the old JJ Act 2000 was repealed and replaced by the new JJ Act 2015, paving way for a separate classification of children, in the age group of 16 to 18 years, who are involved in heinous crimes. A separate scheme of prosecution of such CCL as an adult has been prescribed under the JJ Act 2015. Academicians and researchers have given the nomenclature of 'Juvenile Waiver System' to this new scheme of prosecution CCL as an adult. Separate procedures for registration of inquiry, arrest, and apprehension, inquiry and investigation, trial, prosecution, and punishment have been prescribed in detail in the JJ Act 2015 and JJ Rules 2016.

Extension of Juvenility

A pertinent question arose quite often as to how the children, who complete the age of 18 years during the continuation of inquiries/investigation/trial, should be dealt with. They should be treated as juveniles and adjudicated upon as such as per the juvenile justice law or dealt with as adults as per the procedure laid down in the Criminal Procedure Code, 1973 (Cr.P.C). Clarity on this issue was brought in the JJ Act 2015 by inventing the concept of 'Extension of Juvenility'. Section 5 of the Act provides that if the child completes the age of 18 years during the continuation of inquiry under the JJ Act, the Board (Juvenile Justice Board) may continue the inquiry and pass orders as if such person had continued to be a child. Word 'may' in section 5 shall always mean 'shall', in view of one of the most important Principles of Juvenile Justice, namely, 'best interest of the child' contained in section 3 of the JJ Act 2015. Section 6(1) prescribes that if the child completes 18 years of age and is apprehended for committing the offense when he was below 18 years, he shall be treated like a child during the process of inquiry. Further, such a child as in section 6(1), if not released on bail, shall be placed in a place of safety during the inquiry.

Juvenile Waiver System

As per the JJ Act 2015, criminal offences are classified into three categories namely, 'petty offences', 'serious offences' and 'heinous offences'. Petty offences include the offences for which maximum punishment under the Indian Penal Code or any other law for the time being in

force is imprisonment up to three years. Serious offences entail a punishment of imprisonment between three to seven years. Heinous offences are those offences for which punishment of imprisonment for seven years or more is prescribed. The Judicial Waiver System (JWS) is the system whereby a CCL, in the age group of sixteen to eighteen years, who is found involved in a heinous offence, is classified as a separate category for the purpose of enquiry, punishment, custody, and rehabilitation. Accordingly, section 14(5)(f) of the JJ Act 2015 prescribes that inquiry of heinous offences-

- (i) for children below the age of sixteen years as on the date of commission of an offence shall be disposed of by the Juvenile Justice Board by following the procedure for trial in summons cases under the Code of Criminal Procedure, 1973.
- (ii) for children above the age of sixteen years as on the date of commission of an offence shall be dealt with the manner prescribed under section 15, i.e. the JWS.

The JWS enshrined in section 15(1) of the JJ Act 2015 provides that in case of a heinous offence alleged to have been committed by a child, who has completed or is above the age of sixteen years, the JJB shall conduct a Preliminary Assessment (PA) with regard to his mental and physical capacity to commit such offence, ability to understand the consequences of the offence and the circumstances in which he allegedly committed the offence. The JJB may take the assistance of experienced psychologists or psycho-social workers or other experts to arrive at a decision during the PA. Explanation to section 15(1) makes it clear that PA is not a trial, PA is to assess the capacity of such a child to commit and understand the consequences of the alleged offence. Where the JJB is satisfied on PA that the case of the CCL should be disposed of by it, then, it shall follow the procedure, as far as may be, for trial in summons case under the Cr.P.C. If the JJB on PA decides that the CCL should be treated as an adult, the Board shall pass an order and transfer the trial of the case to the Children's Court(CC) having jurisdiction to try such offences. In order to ensure that there is no undue delay for concluding the inquiry, it is provided in section 15(2) read with section 14(3) of the JJ Act, 2015 that the PA shall be completed within a period of three months from the date of the first production of the child before the JJB. The order of the JJB on PA is appealable under section 101(2) of the Act. The appeal against the order of the JJB during PA shall lie before the Court of Sessions. While deciding the appeal, the Sessions Court may take the assistance of experienced psychologists and medical specialists other than those whose assistance has been obtained by the JJB in passing the order on PA. No second appeal shall lie from any order of the Court of Sessions passed in appeal under the section. It is, therefore, made clear that the order of the Court of Sessions in appeal on PA shall be final. Though, the affected party can always file a revision petition in the competent court.

After the receipt of the PA report from the JJB under section 15, the CC considers the PA report afresh and may decide whether the CCL should be tried as an adult as per the provisions of the Cr.P.C. In case the CC decides that there is no need for a trial of the CCL as an adult, it may conduct an inquiry as a JJB and pass appropriate order under section 18 i.e. an order in which a JJB passes for a CCL. If in the opinion of the CC the CCL is to be tried as an adult, it shall follow the provisions of the Cr.P.C and pass appropriate orders accordingly. However, it is prohibited under

section 21 of the JJ Act, 2015 that no CCL shall be sentenced to death or for life imprisonment without the possibility of release.

Claim of Juvenility

The claim of juvenility may be raised before any court, at any stage, even after the final disposal of a case. Such a claim shall be determined as per the provisions of the JJ Act 2015 and the rules made thereunder.

The magistrate, not empowered to exercise the powers of JJB, before whom a person is produced can initiate immediate inquiry qua juvenility *suomotu*, if he is of the opinion that the person alleged to have committed the offence and brought before him is a child. Such a magistrate can form his opinion qua juvenility based on the mere appearance of the person as well. But looks may be deceptive. It is always safe to form such an opinion after conducting an enquiry as per the procedure laid down in the JJ Act 2015. After the inquiry, the court shall record a finding on the matter stating the age of the person as nearly as may be. If on inquiry, it is found that the person was a child on the date of commission of the offence, the court shall forward the child to the JJB for further proceedings. During inquiry qua juvenility, if required to be kept in custody, the person shall be kept in the place of safety.

In *Jitender Singh v. the State of UP*, *UOI v Ajeet Singh*, and *Gopinath Ghosh v. the State of WB*, the plea of juvenility was taken the first time before the Supreme Court of India (SC) in appeal. The SC set aside the orders of conviction in all these cases and ordered a fresh trial by the JJB as it was established by the defence that the convicts were juveniles on the date of commission of crimes. The Apex Court held that juvenile justice legislators JJ Act, are beneficial Acts and benefit of the provisions contained therein can be given to the juveniles retrospectively, keeping in view the principle of ‘best interest of the child’. In *Abdul Razzaq v. the State of UP* and *Mahesh Jogi v. the State of Rajasthan* also the SC again established retrospective application of the juvenile justice laws.

In *Mohd. Feroz Khan v. the State of AP*, *Upender Pradhan v. the State of Orissa* and *Indra Deo Sao v. the State of Bihar* it was again reiterated by the SC that claims of juvenility can be raised at any stage, even after conviction is confirmed by the Apex Court.

In *Raju v. The State of Haryana*, a Three-Judge Bench of the Supreme Court revisited all questions related to juvenility and answered them in para 9, 10 and 25 as under-

“9. It is by now well-settled, as was held in *Hari Ram v. State of Rajasthan*, (2009) 13 SCC 211, that in light of Sections 2(k), 2(I), 7A read with Section 20 of the 2000 Act as amended in 2006, a juvenile who had not completed eighteen years on the date of commission of the offence is entitled to the benefit of the 2000 Act (also see *Mohan Mali v. State of Madhya Pradesh*, (2010) 6 SCC 669; *Daya Nand v. State of Haryana*, (2011) 2 SCC 224; *Dharambir v. State (NCT) of Delhi* (supra); *Jitender*

Singh @ Babboo Singh v. State of Uttar Pradesh, (2013) 11 SCC 193). It is equally well-settled that the claim of juvenility can be raised at any stage before any Court by an accused, including this Court, even after the final disposal of a case, in terms of Section 7A of the 2000 Act (see Dharambir v. State (NCT) of Delhi, (supra) Abuzar Hossain v. State of West Bengal, (2012) 10 SCC 489; Jitendera Singh @ Babboo Singh v. State of UP, (supra) Abdul Razzaq v. State of Uttar Pradesh, (2015) 15 SCC 637).

10. In light of the above legal position, it is evident that the Appellant would be entitled to the benefit of the 2000 Act if his age is determined to be below 18 years on the date of commission of the offence. Moreover, it would be irrelevant that the plea of juvenility was not raised before the Trial Court, in light of Section 7A. As per the report of the inquiry conducted by the Registrar (Judicial) of this Court, in this case, the Appellant was below 18 years of age on the date of commission of the offence. The only question before us that needs to be determined is whether such report may be given precedence over the contrary view taken by the High Court, so that the benefit of the 2000 Act may be given to the Appellant.

25. Criminal Appeal hereby stands allowed and the order of the High Court affirming the conviction and sentence of the Appellant under Section 376 (2) (g) of the IPC is set aside. Seeing that the Appellant has already spent 6 years in imprisonment, whereas the maximum period for which a juvenile may be sent to a special home is only 3 years as per Section 15(1) (g) of the 2000 Act, and since the Appellant has already been enlarged on bail by virtue of the order of the Court dated 09.05.2014, he need not be taken into custody. His bail bonds stand discharged and all proceedings against him, so far as they relate to the present case, stand terminated.”

The ratio laid down by the Three-Judge Bench in Raju (above) was later applied and reiterated by the SC in *Ashok Kumar Mehra and Another v. State of Punjab etc.* as well.

Determination of age

As per section 94(2) of the JJ Act 2015, the JJB or the Child Welfare Committee (CWC)

shall undertake the process for determination of age by seeking evidence as follows:-

- (i) the date of birth certificate from the school or the matriculation or equivalent certificate from the concerned examination Board, if available, and in the absence thereof;
- (ii) the birth certificate is given by a corporation or a Municipal Authority or a Panchyat, and only in the absence of (i) and (ii) above
- (iii) age shall be determined by the ossification test or any other latest medical age determination test.

It is absolutely clear from the above provisions contained in section 94(2) that the sequence of the process prescribed for the determination of age should be followed step by step. In *Ranjeet Goswami v. State of Jharkhand and others*, the SC held that when the School Leaving Certificate was available there was no question of medical examination by a medical board.

Generally, a range of age is given by medical professionals because it is not possible to determine the exact age of a person by using medical science. When such a range of age is prescribed, the age of the person recorded on the lower side of ranges shall be presumed to be the age, keeping in view the principle of 'best interest of the child'.

The age recorded by the CWC or the JJB shall be deemed to be the true age of that person for the purpose of the JJ Act 2015. It means that age once determined by a competent authority, shall not be determined again by another authority. The SC reiterated this provision of law in *Hari Ram v. the State of Rajasthan*. In this case, the High Court declared the child to be below 18 years of age. In this eventuality, the SC ruled that there was no need to determine the age by the JJ Board again.

In *Om Parkash v. the State of Rajasthan*, the SC, however, took a slightly different position and held that it was the duty of the court to scrutinize plea of juvenility with extreme caution in cases involving heinous crime to ensure that plea of juvenility was not raised to escape punishment. In case a record of age in school documents was found to be doubtful, a medical opinion should be given precedence.

Similar caution was sounded by the SC in *Parag Bhati v. the State of UP*. The Apex Court observed that the benefit of the possibility of two views in regard to age of the alleged accused, who is involved in grave and serious matter, which he committed in a well-planned manner, reflecting his maturity of mind rather than innocence, indicating that his plea of juvenility is more in the nature of a shield to dodge or dupe the arm of law, cannot be allowed to come to his rescue. The SC further held that only in cases where documents or certificates are found to be fabricated or manipulated, the JJB/CWC can go for medical report of age determination. If documents are genuine, then, it is conclusive proof of age. The same view was reiterated by SC in *Sri Ganesh v. State of Tamil Nadu*. The SC held that documentary evidence as stated in the Rules was enough to establish juvenility if it was found to be reliable. There was no need for a medical examination in such a case.

Presumption of age

In order to settle to claim of juvenility, it is not always that the JJB/CWC shall undertake inquiry as per section 94(2) of the JJ Act 2015. They may decide on the question of juvenility merely on the basis of appearance as well. Section 94(1) of the JJ Act 2015, reproduced below, provides sufficient grounds for the presumption of the age of a person for the purpose of an enquiry under the provisions of the JJ Act 2015.

“Section 94 -Presumption and determination of age-

(1) Where, it is obvious to the Committee or the Board, based on the appearance of the person brought before it under any of the provisions of this Act (other than for the purpose of giving evidence) that the said person is a child, the Committee or the Board shall record such observation stating the age of the child as nearly as may be and proceed with the inquiry under section 14 or section 36, as the case may be, without waiting for further confirmation of the age.”

It is, however, stated that if the aggrieved party has an objection to the presumption, age should be determined following the due proves as given in section 94(2) of the JJ Act 2015.

An appeal against the claim of juvenility

Generally, as a matter of rule, the age recorded by the JJB or CWC to be the age of person so brought before it shall, for the purpose of the JJ Act 2015, be deemed to be the true age of that person. But, it is the magnanimity of law that it keeps the doors of law courts open forever for the aggrieved party. A person aggrieved by the orders of JJB/CWC/CC on the claim of juvenility may get his grievances redressed by initiating any one of following remedial proceedings.

- (1) By disputing that the documents produced in support of juvenility are not genuine, an appeal may be filed in the children court (CC) or High Court, as the case may be.
- (2) By filing review/revision petition against the orders of the JJB/CWC/CC in the competent court on the point of law or for violation of procedures, provisions of international conventions to which India is a signatory and principles of natural justice, etc.
- (3) By filing the appeal/revision petition against the order of the CC on the Preliminary Assessment done by the JJB.

The orders of the JJB/CWC under the JJ Act 2015, including order passed during Preliminary Assessment undertaken u/s 15 of the Act are appealable. An appeal against any order of the Children Court shall lie before the High Court as per the provision of Cr.P.C.

Section 102 of the JJ Act 2015 provides that the High Court, at anytime, on its own motion or on application received in their behalf may call for the record of any proceedings by the JJB/CC

for the purpose of satisfying as to the legality or propriety of any order and pass any order as it thinks fit, after giving opportunity of hearing to the person aggrieved by the order to be passed. Procedure in appeal or revision shall be as prescribed in Cr.P.C.

Review of Sentence

The CCL convicted as an adult shall be sent for rehabilitation to the place of safety till he attains the age 21 years and thereafter the case of the person shall be reverted by the CC. During the stay in the place of safety, the child shall be provided reformatory services including educational services, skill development, alternative therapy such as counselling, behaviour modification therapy, and psychiatric support, etc. The progress made by the CCL during the rehabilitation period shall be evaluated periodically by the CC with the help of a Probation Officer or the District Child Protection Unit or a social worker. When the CCL attains the age of 21 years and is yet to complete the term of stay, the CC shall evaluate if such a child has undergone reformatory changes and if the child can be a contributive member of the society. As per section 20(2) of the JJ Act, 2015, after the completion of the evaluation, the CC may-

- (i) decide to release the child on such conditions as it deems fit which includes the appointment of a monitoring authority for the remainder of the prescribed term of stay, or
- (ii) decide that the child shall complete the remainder of his term in jail.

Thus, a CCL, who is tried as an adult, gets an opportunity to escape incarceration in jail after staying in a place of safety up to the age of 21 years. This is additional security to juveniles in case they are incarcerated as adults for their involvement in a heinous offence.

Removal of Disqualification

A child who has committed an offence and has been dealt with under the provisions of the JJ Act 2015 shall not suffer disqualification, if any, attached to a conviction of an offence under such law. This provision conforms to the general principles of care and protection of children that all past records of any child under the juvenile justice system should be erased, except in special circumstances. However, there is one exception to this rule. The provision relating to the removal of disqualification shall not apply to the CCL who has been tried as an adult under the provisions of the Act.

The benefit of the removal of disqualification is available to a child at any age, at any stage in life. If the JJB/CC fails to order removal of disqualification in the dispositional order, such a CCL can seek relief from the JJB by filing an application and get the disqualification removed as per the provisions of this Act.

Conclusions

Childhood is innocence personified. Any child shall be presumed to be innocent of any problematic or criminal intent up to the age of eighteen years. Unlawful conduct of a child which is done for survival or is due to environment or situational factors or is under the control of adults or peer groups ought to be covered by the principle of innocence. Every child in the juvenile justice

system shall have the right to be reunited with his family at the earliest and to be restored to the same socio-economic and cultural status that he was in before coming under the purview of the JJ Act 2015. Principle of diversion enshrined in section 3(xv) of the JJ Act 2015 entails that measures for dealing with children in conflict with law without resorting to judicial proceedings shall be promoted unless it is in the best interest of the child or the society as a whole. Thus, the claim of juvenility is security forever and every stakeholder in the justice delivery system has to recognize this universally accepted principle.



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Supra note 1

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Section 14 or section 36 of the JJ Act 2015. Section 14 provides for Inquiry by JJB regarding CCL. Section 36 provides a procedure for an enquiry by CWC.

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Section 3 (i), Principal of presumption of innocence

Section 3 (xii) JJ Act 2015

MENTAL HEALTH ISSUES AMONG POLICE OFFICER



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Abstract

Police organization is one of the largest organizations in India. The major functions of Police are to protect the life and property of citizens, to maintain peace and harmony in the society and to help the justice system in controlling crime. It is only possible when a police officer is mentally healthy but the fact is that the police officers tackle various dangerous situations that can negatively affect their mental health. By keeping in mind, the aim of the present study is to find out the relation of family and economic status and the mental health of the Police officers. Mental health is an important component of the total positive health and it is closely related to the physiological and physical dynamics of the human body and that is why WHO has rightly pointed out that there is no health without mental health. According to WHO, mental health shapes the well-being of an individual even help them to realize his /her own potentialities and help to cope up with the normal stresses of life. For the present study 50 police officers of Kishanganj, Bihar was selected randomly and a mental health questionnaire was administered. Descriptive statistics and Pearson Correlation were used to analyse data. Results revealed that police officers have a statistically significant negative correlation of mental health with family type and statistically significant positive correlation of mental health with salary. It means that the police officer needs proper care and psychological intervention like counselling and therapy for better mental health.

Key Words: Police Officers, Mental Health, Stress, Harmony

Police work is one of the largest stressful works as there are no defined working hours. They always encounter events such as social evils, murders, rapes, robbery, criminals, pressure from political people, workload and less time with family. There are some research studies that suggest that a police officer is killed by more mental health issues than they are by criminals. These duties of police officers are only possible when a police officer is mentally healthy. The working conditions of the policemen are crawling in many aspects. The social life, human, training deficient, lack of modern sources, task pressures, and behaviour of public towards them bad enough to affect their frustration and surrounding environment which is degraded and pervert.

The major functions of the police are to the maintenance of law and order of the society, prevention and detection of crimes in the country. They protect the life, freedom, and property of the people. The police personnel encounters physical dangers anytime and, if necessary, they risk their lives in protecting our society at any cost, due to which they face stress, depression worry,

and anxiety in many aspects. Even television shows familiarized situations to viewers in which police officers may encounter situations in protecting society from criminals, stop and face situations, and handle domestic violence calls. It all may cause mental health problems such as negative surrounding environment, undefined working hours, lesser time for family, improper healthy diet, need to take strong decisions in short span of time, sleepless nights, poor standard of living and working conditions, problems with senior or peers, difficulties in management of personal life, etc.

There are some major problems of a police officer and one of the reasons for these problems is their police and public ratio. According to the BPR&D report, (2011) standard ratio between police and public is 220-280 per lac i.e. 0.25%. In India, the average Police public ratio is 130 per lac i.e. only 0.13%. In Bihar and UP 65-75 police personnel are deputed in Bihar and UP per 1 lac public i.e. 0.07%. Even 15000 VVIPs are in India and 47000 well-trained police personnel have been deputed for their protection. So now we can imagine how much pressure on our police officer in India. These work overload problems cause mental health among police personnel.

As per the report of National Crime Record Bureau (2011) statistics, Uttar Pradesh reports 12.9% of total crimes which is the highest by any state in India. Similarly, Uttar Pradesh and Bihar also report the highest number of violent crimes (Murder, attempted, rape, kidnapping, and abduction) in India and the second-highest number of robbery cases in the country. A psychological study conducted in Uttar Pradesh reported that with a decline in stress the mental health improved with higher levels of work motivation among police personnel.

Police, is the primary law enforcement agency, is expected to be more dynamic and responsive to the changing nature of the society. This is only possible when a police officer is mentally healthy and doesn't face any mental health problems. Mental health is just like our physical health, everybody owns it and we need to take proper solicitude of it. Mental health issues should be given special attention to the people working in the police department as their negative issues can affect society. Consequences affect society in a direct and indirect way and also critically affect the physiological and psychological health of police officers. Dhailiwal (2003) concluded that most police officers in India remained overload with work and have to stay away from their families and children for a long duration which often leads to family problems and disputes.

Mental Health issues are very common, but it still remains taboo and myth in our society. In this modern age, almost every normal person is suffering from mental health issues. WHO says "There is no health without mental health". Hence, we overlook and ignore our mental health problems, but police officers are very essential to maintain mental health as they work in a tense situation. Good mental health is characterized by a person's abilities to feel and express that we need and desire in our life. But if we go through a phase of mental health problems, we are unable to find the right path in making proper decisions and it affects our frequently thinking, feeling and even reacting become more difficult, or even impossible to cope with daily life situations. This can feel just as worst as a physical problem, or even worse. Mental health includes our emotional, psychological and social state. Hence, it is essential at every developmental stage to be mentally

stable in life.

Mental health is the efficiency of the individual, the group and the environment to interact with one another in ways that enhance the well-being, and development of a person. WHO predicts that 20% of the Indian population will suffer from mental health illness by the year 2020. In India, 1-2% of the health budget is announced to mental health in comparison to 10-12% in other countries (Fortis, 2013). In India, the data on mental issues ranges from 10 to 370 per 1000 population in different areas of the country. The rates are higher in females by approximately 20-25%. Mental health problems usually perplex and dismay. Even if people fall sick or have some mental issues they think that they have this because of physical health or problems. They do not accept that they can have some psychological problems as well. Hence, they do not consult any counsellor and it has become a taboo in society. It is often confusing and frightening especially at first. Even if we are unwell, we may feel that it's a sign of weakness, or that we are losing your mind due to physical problems. Many people suffering from mental disorders never take help from a counsellor. Stigma, discrimination, taboo, and neglect prevent care and treatment from reaching people with mental disorders is one of the reasons people unable to take proper treatment for mental issues. In a report entitled "New Understanding, New Hope" by the United Nations stated that health agency urges governments to spread awareness about the remedies related to mental health.

It is very difficult to identify mental health problems in our day to day life. Experiencing one or more of the feelings and behaviour can be early warning signs of problems –problems with family members, feeling of a mood swing, feeling of hopeless, helpless, having low energy, eating and sleeping disorders, increase alcohol, consumption, smoking, regular body pain and indigestion. Mental Health issues among police personnel may present in the forms of anxiety, fatigue, depression, lack of concentration, irritability, aggression impulsive behaviour, etc. It has a negative repercussion on physical health, and both physical and mental illness make the police officer unfit for work, and it backslash job satisfaction and reduces work performance. In India, the police officers' suicide rate is 597 from 2009-2015. Madhya Pradesh recorded the second-highest figure. In 2016 64 police personnel were a homicide in Kashmir. In India, we were approximately 600,000 short of policemen with vacant posts in the armed police almost 13.8 percent and civil police 9.8 percent and in cities, Mumbai: 42,000 cops for 1.4 crore people; Delhi: 61,000 cops for 1.6 crore people; Kolkata: 26,000 cops for 45 lakh people; Chennai: 14,000 cops for 86 lakh people; and Bangalore: 13,000 cops for 50 lakh people (Bureau of Police Research and Development Report, 2008).

Review of Literature

Kroes and Gould (1979) in an empirical study of job stress in policemen found that a major stressor on officers is that of emotional injury. Pillai (1987) studied that stress produces not only physical and mental disorders but also affects the normal functioning of the police officers. Spileberger et al. (1981) urged that officers who do get hurt suffer emotional injury as a result. Exposure to human pain and death may cause an extreme negative aspect of life. Brown & Campbell (1994) studied that most of the studies concluded that a police job is very stressful.

Physical threats involved in the job, use of force, dealing with dangerous situations and undefined shift hours were also concerned in the police stress circular. For instance, Vinayak (2001) found higher rank police officers to have higher stress than the lower rank police officers. Selokar (2011) occupational stress among police personnel can reduce productivity, increase absenteeism, lower morale, cause conflict with colleagues, cause physical and emotional problems, and poor satisfaction with life. Selokar et al. (2011) stated the reasons for mental stress amongst the people of the police department were such as criticism by superiors, excess work, lack of rewards, inadequate value given to abilities and no satisfaction from work in Wardha, Maharashtra.

Suresh et al. (2013) studied to determine job events that were important sources of stress among Chennai police officers. Srinivasan & Ilango (2013) revealed that a lack of superiors' support to their subordinates, irregular office work hours, heavy workload and dealing with criminals were caused stress among constables in the Northern part of Tamil Nadu. Ragesh (2016) police personnel face occupational stress and this stress is more among younger age groups, lower level rank police personnel, and in females. Rao (2017) found out that a person when under some stress related to the job, it focuses upon the problem and further goes for logic as to overcome it, enhances his well-being and shows better output and it means that those individuals who maximally for problem-focused coping experience high well-being and global positive mental health. It is fortunate that no attention is to be paid to the psychological problems of police personnel in India. More importance is always given to their work and not to their mental health. Since the impact of mental health problems can be affecting psychologically and physiologically among police officers.

Objectives of the present study

- 1) To compare people staying in a joint family and people staying in a nuclear family in their level of mental health.
- 2) To compare between people in inspector rank and people in sub-inspector rank in their level of mental health.
- 3) To find out the relation between type of family, occupational rank and the mental health of the Police officers

Hypotheses

- Ho : There is no significant difference between joint family and nuclear family type on the mental health of police officers.
- Ho : There is no significant difference between the ranks of police officers on the mental health of police officers.
- Ho : There is no significant relationship between the type of family, occupational rank and the mental health of the Police officers

METHOD

Sample: The study consists of 50 police officers who were nominated to attend two days mental health workshop of Kishanganj, Bihar. They were given a brief introduction class on physical and mental health-related issues. Those who agreed to participate in the study were given questionnaires. The age of police officers ranged from 26 to 50 years with an average salary of 39900.

TOOLS:

P.G.I Well-being Scale:

The scale was developed by S.K Verma & Associates (1986) for the purpose of the present study to measure mental health problems among police officers. The questionnaire originally included a 20-item scale. The inter-rater reliability of this scale is 0.86 and the validity of these tests is significant. The response method was similar whereby the respondents had to tick the items applicable to them.

Along with this scale salary, family structure and other demographical information were gathered. The questionnaire required the respondents to furnish certain personal details pertaining to their age, family type, family income, marital status, and educational background.

Procedure:

Police officers were called in a group for the workshop. They were given a short fundamental lecture on physical and mental health-related issues. Those who agreed to participate in the study were given questionnaires. Consent was taken from all the respondents. Data were collected using a specifically demographic detail datasheet covering socio-demographic information, physical and mental health-related details which were prepared by researchers. The questionnaire is a simple 20 item scale. All the collected data were digitized into SPSS and a simple table generated then correlation was calculated accordingly.

Statistical Analysis

An analysis of data relating to the whole sample was made, followed by certain personal details pertaining to their age, family type and monthly income, Pearson Correlation, and t-test method was used to analyse the data. The sample size was 50 and a random sampling type was adopted to collect the primary data. All the collected data were digitized into SPSS and a simple table generated then correlation was calculated accordingly.

Results

Obtained 50 filled in questionnaires from the respondents. None refused consent for filling up the questionnaire. Hence 50 responses were considered for analysis. Mental Health score with family type and rank of police officers were taken and mean \pm 1 SD used for the calculation. t-test and Pearson Correlation method was used to analyse the data.

The socio-demographic data is presented in Table 1.

Table no 1: The demographic picture of the overall sample is shown in Table 1.

Variable Numbers											
Age in Years		Gender		Education		Marital Status		Family type		Designation	
26-30	9	Male	50	Graduation	50	Unmarried	17	Joint Family	29	Sub Inspector	32
31-35	12			Post - Graduation	38	Married	33	Nuclear Family	21	Grades and above	18
36-40	18										
41-45	5										
46-50	6										

This data reflects various basic details of police officers working in Kishanganj, Bihar. The age composition of the sample shows a normal distribution with age ranging from 26 to 50 years. The educational profile of the sample shows that all respondents are well educated and experienced in their field. Even almost 38 respondents are post graduated. The survey shows that 33 respondents are married and settled. Over 29 respondents out of 50 belong to a joint family.

Table -2: Mean SD and t-value of mental health in two groups of family types (N=50)

Variable	Family type	N	M	SD	t-value	P-value
Mental Health	Joint family	29	9.55	4.120	2.38*	0.021
	Nuclear family	21	12.29	3.84		

*P < 0.05 Statistically Significant

The above results show the level of mental health variable in group joint family and nuclear family (TS = $t_{48} = 2.38$; $p\text{-value} < 0.05$). The P-value is less than 0.05 level it is considered as a significant in mean difference. Therefore, the groups of joint family nuclear family people have a significant difference in mental health. Mean and Standard Deviation of joint family is 9.55 and 4.12 respectively. While the mean and Standard Deviation of the nuclear family system is 12.29 and 3.84 respectively. Thus, our first hypothesis which stated that there will be no significant difference between a joint and nuclear system of police officers in the level of mental health was rejected. It is clearly indicated that those police officers who have a joint family feel depressed, dejected, anxious and worried. And the reason may be work overload, pressure, unable to spend time with family and improper lifestyle.

Table -3: Mean SD and t-value of mental health in two rank of police officers (N=50)

Variable	Rank	N	M	SD value	t-value	P-value
Mental Health	Inspector	18	12.56	4.34	2.64*	0.017
	Sub Inspector	32	9.66	3.79		

*P < 0.05 Statistically Significant

The above results show the level of mental health variable of inspector rank and sub-inspector rank (TS = $t_{48} = 2.64$; $p\text{-value} < 0.05$).The P-value is less than 0.05 level it is considered as a significant in mean difference. Therefore, the groups of inspectors and sub-inspector people have a significant difference in mental health. Mean and Standard Deviation of the inspector is 12.56 and 4.34 respectively. While the mean and Standard Deviation of the nuclear family system is 9.66 and 3.79 respectively. Thus, our second hypothesis which stated that there will be no significant difference between ranks of police officers affecting mental health was rejected. A perusal of the results reveals a higher mean score for the Inspector (12.56) as compared to the Sub inspectors (9.66) which clearly indicates that police officer who is higher authority get more salary and others working benefits while sub-inspector face various issues like undefined working hours, death threats, fewer salaries, and other problems. These make police officers more depressed, dejected, anxious and worried.

Table-4: Correlation between mental health, family type and rank among the total sample.

	Mental Health	Family Type	Ranks
Mental Health	1	.325*	.335*
Family Type	-	1	.037
Rank	-	-	1

*Correlation significant at 0.05 level

Table 4 shows the result of Pearson correlation analysis which was carried out in order to investigate the effect of mental health on police officers in relation to family type and monthly income for predicting positive mental health among police officers. The third hypothesis is that there is no significant correlation between the variables was rejected. There was a positive and significant correlation between mental health and family type, which means the higher the score on mental health, the better will be the quality of life of police officers.

Discussion

As police officers, it is very difficult to manage mental health problems. As they are facing the most dangerous consequences in the name of duty. In Table 2 and table-3 shows that the t-test of mental health among police officers. As from previous studies and this study we can conclude that police officers are discharging their duties in anxiety and stress and the reason may be work overload and pressure. However, there are very few studies available regarding mental health problems among police personnel. In the current study, some respondents reported that they are unable to mingle with their family due to work overload and even didn't feel energetic which is the basic need of duty. My findings are in the line of earlier research findings such as Finn (2000) and Bruke (1994) that family situations also affect the psychological well-being besides stress and organizational factors.

Siwach (2001) conducted a study on 300 police personnel of different ranks from the North Indian States. He concluded that the higher officers scored more than lower rank officers and they are more satisfied and better psychological well-being than the lower rank officers. As per the above result of present research work that those police officer who has a joint family feel depressed, dejected, anxious and worried. In brief, police officers didn't feel that they are in a good mental health state. The present finding supports the findings of Siwach. Due to which mental health problems were found in police officers as they were unable to manage their joint family with a low salary. This problem makes a worse impact on their psychological and physiological well-being. The unrealistic expectations imposed on them and their working environment discourage police from admitting to suffering mental health problems and from openly expressing negative emotions. This is one of the reasons this study has less sample size. The mental health problem may, directly and indirectly, affect their physical and psychological mental health which may result in poor functioning. However, there are some limitations of the study such as the study is limited in terms of respondents. Only 50 could be arranged for the responses such as the research study was limited to one area, the busy schedule and taboo in the eye of respondents also makes the collection of information a difficult one, the hesitation of

respondents affects the analysis of the research in a significant manner.

Conclusion

The pressure of law prosecution put police officers at risk which cause High BP, insomnia, heart problem, PTSD and suicide. Thus, police receive ample training in terms of knowledge and technical skills to fulfil their tasks but in the future, if proper care is not taken of the above issues these problems will prevail among police officers. It is clear from our study that police personnel need stress management therapy and counselling sessions so that it will not only help police officers remain more balanced during and after the acute stresses of their jobs but also to take rapid actions to better manage and seek fast solutions like managing time with their family, organizational and family issues.

Physical and mental health issues are higher not only lower rank officers but also in higher rank officers, which needs swift attention from the government. Structural changes are essential and gender stress reduction therapy should also take place. Anger management programs, health checkups at the workplace, administrative solutions to reduce stress in jobs, special arrangements for females as well as young police officers are few recommendations to address this serious issue. Moreover, the Police Act (1861) must be modified, if needed change as per the demand of various commissions and committees constituted by the government of India. There is an urgent need to bring overall positive structural changes in the police department which will help in maintaining positive mental health.



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CORPORATE GOVERNANCE IN INFRASTRUCTURE INDUSTRY



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Abstract

Our paper investigates the influence of corporate governance on the performance of the organizations in the infrastructure industry. Corporate governance is the set of policies processes and laws affecting the way a company is administered or controlled. It aims to allocate resources in a way that maximizes value for the company's stakeholders (shareholder, investor, employees, customers, supplier and community at large) and evaluates their decisions on transparency, inclusivity, equity, and responsibility. Different countries around the world follow different models of corporate governance. The difference in these models of corporate governance lies in the variety of capitalism in which they are embedded. India practices both Anglo-American model and business house models in the governance and hence this has led to a change in the Indian companies from family-owned and controlled structures to professionalize companies. Corporate governance on the internal structure and rules of board of directors, rules for information disclosure to its shareholder, compensation to the marketing person and control the management. An organization's performance is directly correlated to the effectiveness of the governance applied by the corporation. This relationship between governance and performance is affected by numerous factors. The study is an attempt to understand and analyze the challenges faced by infrastructure organizations such as vulnerability to corruption frauds and mismanagement, political dynamics, lack of transparency and unstable regulatory frameworks in corporate governance.

Key Words: Corporate Governance, Infrastructure, Organization, Corruption, Transparency

Introduction

High-quality infrastructure is a prerequisite to support the development process and delivery of efficient public services. The growth of an economy is judged by its infrastructural presence in transport, education, health, and culture respectively. In a developing country infrastructure supporting the development process is of paramount importance. The infrastructure projects are highly capital intensive. Raising money for the same is challenging tasks. The provision of raising money by using the national levers to access international markets is at risk due to a lack of public governance mechanisms. The budgetary governance should be systematic and follow a standard framework. Poor governance leads to failure due to the timeframe, budget, and delivery objective.

Today there is an enormous desire in Indian companies to get listed on the International Stock Exchanges which is creating a desperate need for more focused corporate governance. It is described as a set of rules, practices and processes, principles of behaviours through which a company is directed. It refers to the accountability of the Board of Directors to all of the company's stakeholders i.e. shareholders, employees, suppliers, customers and society in general (OECD, 2015).

The Cadbury Committee (U.K) quote "Corporate governance is the system by which companies are directed and controlled". Claessens in 2006 defines corporate governance as the rules by which the companies are operating, deriving from such sources as the legal system, the judicial system, financial markets, and factor (labour) markets. It is defined by Young and Thyl in 2014 as the strategic plans and decisions established by the Board of Directors with the primary goal to increase the organisation's goal and performance and more specifically the financial results. Filatotchav, Toms & Wright (2006) describe it as organisational managerial engagements in strategic decisions' and governance that have a significant impact on marketing performance. Therefore, an adjustment in the organisation's marketing performance is directly interrelated to the effective governance applied by organisations and corporations.

There are many factors that create the need for corporate governance like the large and increasing number of shareholders, changing ownership structure, increased number and chances of corporate scams, increasing expectations of the society, hostile takeovers which imply the need for efficient code of conduct and globalization.

The fundamental principles of corporate governance are transparency, accountability, and independence. Transparency implies an accurate, adequate and timely disclosure of important information about the operating and financial results of the company to the stakeholders. The Board of Directors, the Chairman and the Chief Executive of the company hold accountability towards the best interest of the company and its stakeholders for the use of company's resources. The top management of the corporation holds independence so that it can take all corporate decisions based on business prudence. In case the top management does not withhold independent decision making, good corporate governance will merely be a dream.

Different models of Corporate Governance

Anglo Saxon Model

The shareholder plays an important role in this model. They have a key role in decision making. The members of the board and the director are elected by them. Britain, Canada, America, Australia, and Commonwealth countries follow the above-given model. India also follows this model. The ownership and management are different in the companies governed by this model. Professionals are hired to run the companies. The directors elected are rarely independent. The banks and other institutional investors are of prime importance because they are the portfolio investors. The disclosure norms are strictly followed. And insider trading is considered a gross offence.

German Model

This is a kind of European Model. Workers are considered as a key stakeholder and they are considered as participants in the decision making of the company. They follow a two-tier board model. The supervisory board and a board of management are the two tiers of the model. The supervisory board is elected by the shareholders. Employees elect their members for the supervisory board. This supervisory board is generally half or one-third of the board. The supervisory board further appoints the board of management and govern their performance. The supervisory board has every right to dismiss and reform the board.

Japanese model

In the Japanese Model, banks play an important role as the money is raised through banks and other financial institutions. So, the management of the company is also governed by them. The shareholders and banks appoint the board along with their president. Recognition of lenders in the decision-making process is one of the striking features of these models.

Overview of the Infrastructure sector

The infrastructure sector acts as a key driver for the Indian economy. This sector is highly responsible for India's overall development and enjoys intense focus from the Government of India for attracting both domestic and international players. The GOI is initiating policies to enjoy the time-bound creation of world-class infrastructure in the country. India's difficult business environment has resulted in the diminishing enthusiasm of many foreign investors. They complain about the unstable and unpredictable regulations, bureaucratic delays, corruption, and governments' stalled attempts at reform. Corruption forms a major deterrent for hesitation among investors to invest in India. India ranks 95th out of 182 countries in Transparency International Corruption Index. To prosper the Indian economy there is a need for the enhancement of governance system, transparency, and accountability, there is a need to combat corruption and enhance infrastructure. In the coming years, sectors like power transmission, roads and highways, and renewable energy will drive huge investments. There has been a significant allocation towards the infrastructure sector in the 12th 5-year plan which expects to create a huge demand for construction equipment in India. A large number of private players are entering the business through Public-Private Partnership (PPP).

Challenges in Infrastructure operations in India

The infrastructure industry in India is witnessing great progress in recent years. Economic development in India has immense opportunities for growth in this enormous industry. For the next five years, a proposed investment of INR 56,00,000 crores is anticipated for future growth in several areas. There are great challenges that need to be tackled efficiently in order to turn the infrastructure dream into reality.

List of some of the major challenges which need immediate attention:

- Substantial shortfall in planned investments along with many announced but uncompleted projects: The Survey stressed the need to fill the infrastructure investment gap by financing from private investment, institutions dedicated for

infrastructure financing like National Infrastructure Investment Bank (NIIB) and also global institutions like Asian Infrastructure Investment Bank (AIIB) and New Development Bank (erstwhileBRICS Bank).

- Delayed implementation and execution and difficult land-acquisition and environmental clearances along with coordination lag between various government agencies: The major steps are undertaken to ensure completion of central sector infrastructure projects without time and cost over-runs include: rigorous project appraisal, Online Computerised Monitoring System(OCMS) for better monitoring and setting up of revised cost committees in the ministries for fixation of responsibility for time and cost over-runs.
- Improper structuring of projects and the absence of a proper dispute redressal mechanism
- Implementation of a technically sound and well-equipped regulator and cautious lending approach by banks for infrastructure sectors as banks have restricted exposure in the sector there is difficulty in raising funds.
- There must be constant improvising in the current way of doing business along with the Technical and Financial Viability of the projects.
- Lack of a suitable avenue to invest for the funds from abroad:
- Need for improved transparency and proper assigning of roles to avoid unnecessary litigation.

Solving all such problems at an initial stage will be a unique and worthy way of emulation across the globe.

SEBI guidelines on corporate governance:

1. Board of Directors: The board of directors for any corporation must comprise of an optimum number of executive and non-executive directors. In the board of directors, the board must comprise of atleast one-third independent directors. In the case of non-executive chairman whereas in the case of executive chairman, the board must comprise atleast half of the board's strength as independent directors.
2. Audit Committee: Every corporation must have an independent audit committee, the chairman of which will be an independent director. The presence of the chairman is mandated in all annual general meetings to answer shareholders' queries. The audit committee possesses certain powers such as to investigate any activity within its terms of reference, to seek information from any employee, to obtain legal or other professional advice from outsiders and to secure the attendance of outsiders with relevant expertise. The audit committee oversees the company's overall financial reporting process and the disclosure of its financial information to ensure its credibility and sufficiency.

3. Remuneration of directors: The company must disclose the remuneration package of all the directors i.e., salary, benefits, bonus, pension, etc in the annual report of corporate governance. Also, details of fixed components and performance-linked incentives along with criteria must be disclosed for the directors.
4. Management: The annual report for the shareholders must consist of a Management Discussion and Analysis report containing discussion on the opportunities and threats, risks and concerns, financial performance with respect to operational performance and material development in human resources.
5. Compliance: The organization must get an endorsement from the inspectors in regards to the consistency of states of corporate governance which will be added with the Directors' Report sent to investors and stock trade.

LITERATURE REVIEW

Corporate governance can be depicted as a framework of tenets, the standard of practice rehearses and forms by which an organization is coordinated and controlled. Claessens (2006) defines “corporate governance as the rules under which companies are operating, deriving from such sources as the legal system, the judicial system, financial markets, and factor (labor) markets” (Mugova & Sachs, 2016). Corporate governance can be characterized as the key plans and choices set up by the governing body with an essential objective to expand the association generally execution and all the more explicitly the money related outcomes (Young & Thyl, 2014).

All hierarchical administrative commitment to key choices' and administration significantly affect the advertising execution. Along these lines, a change in the association' showcasing execution is specifically interrelated to the viability of the administration connected by associations and enterprises (Filatotchev, Toms, & Wright, 2006). The corporate governance set tenets and guidelines for all the hierarchical incorporated exercises so as to ensure institutional execution, client's productivity, gainfulness, and profitable administration quality; such exercises incorporate advertising, advancement, fund, financial matters, and bookkeeping. Consequently, corporate administration might be characterized as the execution of a guaranteed and approved examination on the corporate's money related records and administrative strategies (Claessens & Yurtoglu, 2013). (Fawal & Mawlawi, 2018)

The Anglo-American model of Corporate Governance is a liberal model of governance in the corporate body. Adapted from and influenced by the systems of governance followed in the USA and UK, this system of governance provides primary importance to shareholders' interest and as a result, the role played by banking and financial institutions in the governance of an enterprise is drastically reduced. The protection of shareholder interest is the chief characteristic of the Anglo-American model of governance and the fundamental principle behind its existence for global acceptance proves to be the most favourable model of governance in a corporate body. (Nehaa, 2009)

The expanded catalyst to create a foundation in the nation is drawing in both residential and global players. The private segment is rising as a key player crosswise over different foundation fragments, going from streets and interchanges to power and airplane terminals. So as to help the development of structures in the nation, the Government of India has chosen to think of a solitary window leeway office to accord fast endorsement of development projects. The Government is additionally dealing with improving vitality foundation in the nation and speculation openings worth US\$ 300 billion will be accessible in the area in the coming 10 years.(IBEF, 2018)

Foundation Industry in India has enlisted incredible advancement in the ongoing years. Production of the framework is fundamental for India's financial advancement as the open doors for future development are gigantic in the nation. Here is a list of some of the major challenges which need the immediate attention of all the players:

There is a huge deficiency in arranged ventures. A few of the reported ventures are yet to be finished, deferral in Implementation and execution, not ready to get Land-securing and ecological clearances. Absence of coordination between different government organizations. The careful methodology by Banks in loaning to foundation segments. There must be an upgrade of the present method for working together in this circle and a superior viable and critical thinking approach, Evaluating the challenges in raising assets, as banks have limited introduction to the segment and investment from abroad come up short on an appropriate road to contribute (Infrabazaar)

This paper states the need and the standards of Corporate Governance. The requirement for corporate governance emerges due to the accompanying reasons, for example, widespread investors, changing possession structure, corporate tricks, threatening take-overs and so on. A better level of corporate governance is essential for infrastructure businesses, given the scale of investments, the lack of alternative uses of assets once created, and the urgent need to develop such assets. Whether publicly listed or not, overall corporate governance standards need to improve to create a more robust ecosystem.(Mukherjee, 2018)

Sheets of executives can be depended upon to play out their observing job successfully just on the off chance that they are given all the essential data in regards to their issues of the organization with the end goal that they can make educated choices. In any case, a noteworthy imperative on this check is that the accessibility of data and the degree thereof are constrained by insiders, for example, administrators or advertisers, who may give deficient data or in such structure and way that inspires their ideal result from board basic leadership. (Umakanth, 2011). To advance great corporate administration, SEBI (Securities and Exchange Board of India) comprised a council on corporate administration under the chairmanship of Kumar Mangalam Birla. Based on the suggestions of this advisory group, SEBI issued certain rules on corporate administration; which are required to be joined in the posting understanding between the organization and the stock trade. (Talathi)

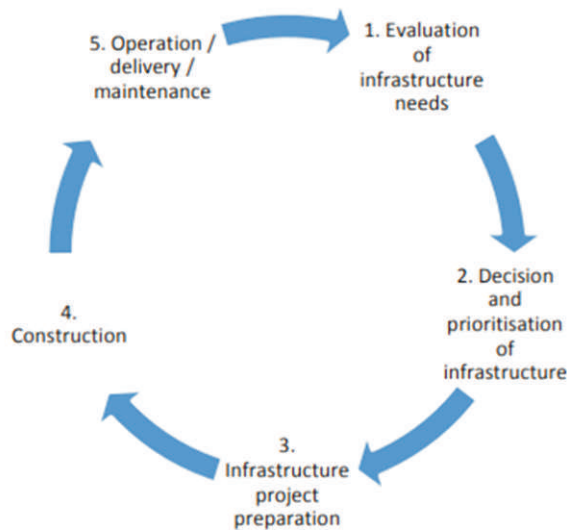


Figure 1 Life cycle of Infrastructural Development((OECD, 2015)

Discussion

Competent corporate governance shall be transparent, inclusive, equitable and responsible. For such effective corporate governance in infrastructure sector certain measures must be undertaken:

Control Measures

Internal Mechanism:

The objective of an effective mechanism includes smooth operations, clearly defined reporting lines and performance measurement systems. These measures monitor the progress and activities of the organization and involve in taking corrective actions when a business goes off-track. The internal mechanisms include independent audits, the structure of the board of directors into levels of responsibility, segregation of control and policy development.

Infrastructure projects must be awarded and management strictly by using procedural rationality which makes rational choices among alternatives on a logical and conceptual level.

External Mechanism:

These control measures are controlled by outsiders and they serve the objectives of entities such as regulators, governments, trade unions, and financial institutions. These measures are necessary for adequate debt management and legal compliance. The imposition of these external mechanisms in the form of union contracts or regulatory guidelines. Industry associations may suggest guidelines for best practices as an external measure.

The regulatory bodies functional under the infrastructure sector should ensure compliance and cost overruns in public-funded projects.

Independent Audit:

In an independent external audit, the company's financial statements form a part of the overall corporate governance structure. Both the internal and external stakeholders are served at

the same time with the audit of the company's financial statement. It helps the investors, employees, shareholders, and regulators to determine the financial performance of the company. With the help of the audit, all the stakeholders get the view of the organization's internal working mechanisms and future outlook.

The appointment and performance of the auditing body should be monitored to ensure no misappropriation of shown funds takes place. Independent directors should be vigilant and should be held accountable for any kind of malpractices.

Preventive Measures

Risk assessment:

Assessing the risk of fraud in an organization becomes important as it points out the deficiencies that exist in internal control. Brainstorming can be used for assessing fraud risks which may help the organization to be defrauded.

Fraud prevention techniques:

Effective fraud prevention techniques require strong internal controls. Having strong ethics and HR policies help in forming a strong internal system. Exposure of the employees to the HR policies of the organisation helps in the ethical conduct of the employee. Certain functional level controls are necessary for fraud prevention. They exist at the lower levels within an organisation.

The functional level control includes segregation of duties, access control, and account reconciliations. Segregating duties helps in reducing the likelihood of occurrence of fraud as it makes it difficult for a fraudster to act alone when committing fraud. Access control helps in preventing fraudulent activities as it denies certain employees from having the opportunity to defraud the organisation. It can be physical as well as logical. Physical controls include having a security guard and locking sensitive areas of the building such as filing cabinet or safe etc. Whereas in logical access control certain information systems are restricted to only the necessary individuals.

Fraud detection techniques:

It serves the dual purpose of deterring fraud and thus also be a fraud prevention technique. The availability of fraud hotline for employees encourages them to report unethical behaviour. It helps in opening lines of communication with upper management. Frauds may also be detected during analytical reviews and account reconciliations. An internal audit also assists in fraud detection.

Reporting and investigation processes:

In this process evaluation of fraud allegations and the implementation of corrective actions take place. It is important to have appropriate corrective action for a fraud that has occurred. Swift and decisive actions must be taken to instil a message among the employees that the organisation will not tolerate unethical behaviour.

CONCLUSION

Corporate governance both in regard to strategy and practice made a quantum jump in India. On the approach side, India has a standout amongst the best structures for corporate governance. On the training side, there is an extraordinary improvement in the principles of announcing, divulgence and consistency of organizations. Given more than one hundred thousand organizations enrolled, of which around 5000 are recorded, observing corporate administration in Indian organizations is a strongly difficult undertaking.

India experiences a picture of being a troublesome nation in which to contribute and to do business. Postponements in endorsements from various offices at the national and state levels, clashing choices at various dimensions frequently slow down ventures. Once active, the permit adds to the challenges of concentrating on running a focused endeavour.

The present condition has been one of the significant foundations for speculation choices being made for different nations. Poor governance and defilement undermine the economies of creating nations just as the World Bank's central mission of neediness decrease and excessively influence poor people. The World Bank has a guardian commitment to guarantee its own investors and partners that reserves are utilized for their expected purposes thus looks to fortify administration and hostile to debasement measures in its borrower nations. Though infrastructure is a booming industry, Indian organizations experience the inability to perform well because of issues in proper corporate governance measures and lack of communication between interdependent regulatory bodies causing delays and distortion in the project activities. These lags in the corporate governance systems give rise to issues such as corruption, frauds, and mismanagement due to lack of transparency and an unstable regulatory framework.

Appropriate coordination must be established by government agencies to develop a smooth flow of information. There should be the implementation of clear and single window documentation to attract more foreign funds to the industry. Strict monitoring of projects. To avoid unnecessary litigation cases the organisation must have a proper and fully functional dispute redressal committee or grievance cell to handle cases regarding frauds, mismanagement or any harassment.

Limitations of Research

Empirical feedback from the CEO and Board of Directors to understand the existing prevention and risk assessment mechanism will give more in-depth knowledge about the corporate governance practices in the infrastructure sector.



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A PERSPECTIVE ON WHITE COLLAR CRIMES IN INDIA



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Abstract

The 'Make in India' initiative started by of Government of India, has boosted business thereby creating positive sentiments and increased investor confidence in Indian companies. With the Indian government's effort to further liberalize strategic sectors under the foreign direct investment policy, it has currently boosted business for the country and will further enhance the future foreign investment perspectives. But all these glorifying initiatives taken by the Indian government are not immune to the risk of financial and reputational damages caused by white-collar crimes or corporate crimes such as antitrust violations, environmental law violations, financial and securities fraud, insider trading, evading corporate taxes, misappropriation of funds, embezzlement, etc.

Since there is a huge cost involved in dealing with frauds and cases of corruption rigorous anti-fraud and anti-corruption frameworks should be developed secured with stringent penalties on fraudsters. Such elaborate frameworks will help India to transform into a mature market that would create a secure business environment with zero tolerance to corporate crimes done by white collared people.

Key Words: White Collar crimes, fraud, corruption, corporate crimes, Make in India

Introduction

Within the study of crime, corporate crimes or the white-collar crime was first suggested by sociologist Edwin Sutherland in the year 1939 as "a crime committed by a person of respectability and high social status in the course of his occupation". Crimes like bribery, insider trading, labour racketeering; embezzlement, fraud, money laundering, cyber-crime and forgery are typical kinds of white collar crimes committed by people at large. White-collar crime is not only limited to the developed countries of the world, but has emerged significantly in rapidly growing economies such as India (Bakshi, 2016).

There is a significant impact of white-collar crimes on Indian corporates today. The statistics reveal that 469 numbers of companies were probed by Serious Fraud Investigation Office (SFIO) between 2004 and 2016 (PTI, 2016). Also 6533 number of corruption cases were been prepared by CBI over last 10 years (Bakshi, 2016).

The present scenario reveals that largely fraudsters are motivated by financial gains more than ever before leading to deviant behaviour. Largely it is been seen that perpetrators of white-collar crime do not have any past criminal record and believe that their activities will go unnoticed. They misuse their position of trust to breach the trust.

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Commonly committed corporate crimes in India

Some commonly committed corporate crimes in India can be categorized as:

- **Antitrust Violations:** The antitrust laws apply to every level of business with the purpose of prohibiting those practices that restrain trade in any way (Bhattacharjee, 2012). Recently India's antitrust watchdog Competition Commission of India, found Google to be guilty of search bias. It has fined Google \$ 20 million for abusing its position in online searches.
- **Bank Fraud:** India's apex bank that is, Reserve Bank of India (RBI) reported over 23,000 cases of fraud involving a whopping Rs 1 lakh crore in the past five years in various banks. A total of 5,152 cases of fraud, were reported in banks from April, 2017 to March 1, 2018, the highest ever amount of Rs 28,459 crore is said to have been involved in these cases of bank fraud in India (PTI, 2018).
- **Bankruptcy Fraud:** Bankruptcy fraud is a white-collar crime where a debtor conceals assets to avoid having to forfeit them. The corporations lie to creditors or bankruptcy officials about assets or debts with the purpose of fooling creditors in order to defer their burden of payment (Srivastava & Mukherjee, 2015)
- **Embezzlement:** It involves the use of money or goods entrusted for the benefit of oneself. Recently, Rs 11,000 crore embezzlement scandal has hit one of the India's public sector bank. This bank in India has reported a Rs. 11, 400 crore (\$2,24 billion) scam involving fraudulent transactions that amounted roughly to one-third of the bank's total market capitalisation.
- **Insider Trading:** Insider trading is said to be fairly prevalent in the Indian stock market. "Active investors regularly track company disclosures and adjust their portfolios depending on the nature and substance of announcements. As disclosures are often price sensitive, insiders are always in a better position to make bigger trading gains. But since this will be unfair to other investors, and in order to maintain trust and confidence in the market, trading on the basis of unpublished price-sensitive information is illegal" (Livemint, 2017).

White collar crime cases in India

The Harshad Mehta Scam:

In the year 1991 India opened its doors to rest of the world by ushering the new economic policy which is often referred to as Liberalization, Privatization and Globalization (LPG). Where this new regime opened opportunities for India's economy to flourish, in the backdrop India was about to uncover the most audacious scam done by a stock broker named Harshad Mehta in the year 1992. Taking advantage of the loopholes that existed at that time in the Indian banking system, Harshad Mehta fraudulently laundered over 24000 crores (adjusted for inflation today) in the stock market over the period of 3 years (Palande, 2014). Often referred to as the 'Big Bull', Mehta bought stocks on Bombay stock exchange by siphoning approximately Rs. 1000 crores from Indian Banks. This led to infusion of huge amount of money in the stock market. Between 1991 to 1992, the Sensex stormed. It returned 274 percent, moving from 1,194 points to 4,467. This was the highest yearly return for the index. This scam was revealed when the SBI (State Bank

of India) discovered a deficit in government securities. Later the investigation revealed that Mehta had fiddled with approximately Rs 3,500 crore in the system. After the exposure of scam in the year 1992, the markets crashed by 72 percent bringing the biggest fall in the stock market accompanied with a despairing phase that lasted for 2 years (Palande, 2014).

Ketan Parekh Scam:

Often referred as Pied Piper of Dalal Street, Ketan Parekh's actions were followed by marketmen because all that he touched turned into gold. From the year 1999 till 2001, Parekh got involved in circular trading and stock manipulation in multiple companies. "Parekh purchased large stakes in less known small market capitalization companies and jacked up their prices through circular trading with other traders, and collusion with these companies and large institutional investors. This resulted in steep hikes in share prices" (Chakraborti, 2016). "This set of ten stocks was colloquially referred to as K-10 stocks and Parekh was playfully referred to as Pentafour" (Indian Today, 2009). On March 1, 2001, just after the government had presented Union Budget, the Bombay Stock Exchange Sensex fell 176 points, that led to setting up of an inquiry by the government to check the manipulations done by Ketan Parekh. Investigations revealed that the promoters of various companies along with many industrialists often handed funds to Parekh for artificially inflating their share prices. "Thus in just a few months, scrips of virtually unknown companies like VisualSoft rose from Rs 625 to Rs 8,448 per share and Sonata Software rose from Rs 90 to Rs 2,150" (Lok Sabha Report, 2002). As the consequence of this scam, the loopholes that existed in the market were sealed. Since then the trading cycle has been reduced. The scam led to the ban on Badla. Forward trading was formally introduced to regulate futures market and the stockbroker's control over stock exchanges was demolished.

Satyam Scandal:

In the year 2009, a corporate scandal rocked the India based company 'Satyam Computer Services', scandalizing the global corporate community at large. The chairman Ramalinga Raju confessed the falsification of company accounts, manipulating the accounts worth Rs 14,162 crore in several forms. "This scam uncovered many loopholes in the Indian corporate governance structure that included unethical conduct, fraudulent accounting, insider trading, oversight by auditors, ineffectiveness of Board, failure of independent directors and non-disclosure of material facts to the stakeholders" (Pushkar and Naushad, 2018). Since then numerous measures have been taken to strengthen corporate governance in India. In the year 2009, the Ministry of Corporate Affairs issued Voluntary Guidelines for Corporate Governance. In 2014 Securities Exchange Board of India amended the Listing Agreement to include provisions regarding the establishment of a vigil mechanism, role of Audit Committee in case of fraud and irregularity along with the role of the Chief Executive Officer and the Chief Financial Officer relating to financial reporting and disclosure to the Audit Committee. "SEBI framed the "Listing Obligations and Disclosure Requirements Regulations" in the year 2015, that extends to all listed companies and provided for stringent guidelines relating to reporting / disclosure of material events and actual and suspected fraud" (Pushkar and Naushad, 2018). Further, Companies Act 1956, was repealed with a new Companies Act, 2013 that introduced several measures for benefit of stakeholder community.

Punjab National Bank Fraud:

In the year 2018, Punjab National Bank (PNB) disclosed a Rs. 11,000 crore fraud purported by one of the India's richest men, diamondaire Nirav Modi (ET Bureau, 2018). Between the year 2011 and 2017, the alleged PNB employee furnished many fake PNB letters of undertaking (LOU) without any collateral to Nirav Modi. The bank claimed that these people bypassed the internal messaging for lenders so as to avoid any kind of detection. Then the instructions were placed through the Swift global payment system soliciting overseas branches of the Indian banks to pay out the loans in cash (ET Bureau, 2018).

Conclusion:

In the light of corporate scams that have jolted the Indian financial sector from the past three decades, that has left the investor and stakeholder community scandalized and traumatized, a host of measures have been taken up by the government of India to protect the interest of stakeholders community with respect to corporate governance initiatives. The new Companies Act 2013, has set clear obligations on the auditors, company secretaries and cost accountants for reporting any instances of fraud. It emphasizes on the active role of independent directors in the proper functioning of corporates. As a vigil mechanism, the 'the directors responsibility statement' has become a mandatory part of the report of the Board of Directors. Also, under the new act, the Serious Fraud Investigation Office has been actively investigating cases of corporate fraud and has been granted the power to make arrests.

There have been many occasions where the economic offenders who committed white collar crimes in India flee the jurisdiction of Indian courts. Certain economic offenders that are involved in non-repayment of bank loans like Vijay Mallya (for unpaid loans of now defunct Kingfisher airlines) and Nirav Modi (for PNB fraud case) have fled the country after eroding the financial health of Indian banks. The absence of such offenders erodes the importance of Indian judiciary. It also hampers the investigation of several criminal cases. Since the present provisions of law were not enough to manage the profundity of the problem, the union cabinet of India has recently approved the promulgation of Fugitive Economic Offenders Ordinance, 2018. This ordinance makes provision for the special court (under the Prevention of Money Laundering Act 2002) to declare a person as a Fugitive economic offender. "A fugitive economic offender is that person against whom an arrest warrant has been issued for a scheduled offence and who has fled India in order to avoid criminal prosecution or while being abroad, refuses to return to India to face criminal prosecution". This ordinance lists those provisions that empower Indian authorities to not only attach but also confiscate the proceeds of crime related with fugitive economic offenders along with the properties of such offenders. This will not only discourage economic offenders from escaping the procedure followed by Indian law by remaining outside the jurisdiction of Indian courts but would also force them to return to India to face trial for the offences committed by them.

It is expected that the Fugitive Economic Offenders Ordinance, 2018, would help the financial institutions and the banks in India to attain greater recovery from financial defaulters. This will therefore improve the financial health of such institutions at large.



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AN EVALUATION OF VARIOUS TECHNIQUES OF MEASUREMENT OF HOT SPOTS OF CRIME



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Abstract

That crime is non randomly distributed has long been known. However, the measurement of crime hotspots and its application to crime control strategies is fairly new. Especially, the sue of GIS and other software for mapping and plotting of hotspots has given a new dimension to crime prevention. This paper reviews the various issues in defining hotspots with a view to make preventive strategies for handling of crime events. We also look at the methods used at present for measurement of hotspots of crime. It is highlighted that the hotness of the crime spots can be measured in multiple ways and each of them results in a specific recommendation to formulate an effective response to crime events.

Key Words: hotspots, crime prevention, crime control, cluster analysis

Introduction

Police officers have long recognized the importance of place in crime problems (Braga, A. A., Weisburg, D. L., & Waring, E. J., 1999). However, until recently, crime prevention strategists have not systematically analyzed crime hot spots. Similarly, they have not addressed the underlying conditions that give rise to high activity crime places. However, a Police Foundation report found that 7 in 10 police departments in the United States used crime mapping to identify crime hot spots (Weisberg et al., 2001). Recent research suggests that focused police interventions such as directed patrols and proactive arrests can produce significant gains in crime prevention at high crime spots (Eck, 1997, 2002; Braga, 2002; Weisburd and Eck, 2004).

Criminology has traditionally focused on two main units of analysis: individuals and communities. They often speculate as to why certain individuals or communities are prone to commit more crime. However, some criminologists have focused their attention to the context of crime and the opportunities presented to the potential offender. For example, Ronald Clarke has used situational crime prevention to analyze crime in public transport. (Smith Martha J, Clarke Ronald V, & Michael T., 2000). The implication of this perspective is that high crime areas are an important focus of inquiry.

This change has come about in part due to the rise in empirical work on how and why crimes happen. Ronald Clarke's (1983) work on situational crime prevention showed how small changes in situational opportunities could affect crime. For example, a law that requires riders to

wear helmets compulsorily could reduce motorcycle theft. The potential thieves would find carrying helmets difficult. Cohen and Felson (1979) suggested a theoretical approach to situational and spatial aspects of crime in their work on routine activity theory. They suggested a crime triangle with one side representing the target, the second offender and the third place. All three must come together for a crime to happen. Guardianship protects targets from offenders. Later, Felson (1986) spoke about handlers, who when present will prevent offenders from deviating. Finally, Eck (1994) suggested a third class of crime controllers. These people manage places – store clerks, lifeguards and the like. They control crime by regulating the behaviour of place users.

This approach requires victims, offenders and guardians to converge in space and time for a crime to happen. A change in any one side of the triangle causes a change in the risk of a crime occurrence. Thus, a criminally inclined individual alone is not enough to cause crime.

A number of research studies reinforced this view of crime in the late 1980s and early 1990s. These studies indicated that crime clusters in very small places or hot spots generate a disproportionate number of criminal events (Pierce et al., 1988; Sherman, Gartin, and Buerger, 1989; Weisburd et al., 1992). In Minneapolis, for instance, only 3 percent of the city's addresses accounted for 50 percent of calls for service to the police (Sherman, Gartin, and Buerger, 1989). Similarly, in Jersey City only 4% of streets generated nearly half the city's narcotic arrests (Weisburd and Green Mazerolle, 2000). Many police departments use crime hot spots analysis as a common crime prevention strategy.

WHAT ARE HOT SPOTS

Hot spots are geographical areas of higher than average crime or disorder, relative to the distribution of crime and disorder across the whole region of interest. However, there is no unanimous definition of hot spots. One definition is that hot spots are small places in which the occurrence of crime is so frequent that it is highly predictable, at least over a one-year period (Sherman, 1989). Weisburd has defined hot spots operationally as small clusters of addresses with frequent 'hard' crime call activity, which also has substantial 'soft' crime calls for service. Eck et al. (2005) describe hot spots as areas of concentrated crime. These areas may be addresses, blocks, clusters of blocks, neighbourhoods or larger areas such as cities.

Eck et al., (2005) have expanded the place definition into five categories. These categories are defined by crime concentrated at places or specific addresses, among victims, streets or in an area. Each category has a specific geometric dimension such as a point, line or area. Different theories explain crime causation for each category and different crime control strategies are required for each kind. However, defining a hot spot is not easy.

There are three difficulties in terming an area as a hot spot. One is the nature of human techniques and practices that assign activities to addresses in official records. For example, the data entry operator enters the callers' location and not the location of the crime. Many callers belong to the low-income neighbourhoods and do not have personal phones. They frequently rely on public phones to call the police. Many times, these phones are located up to six blocks away

from the scene of crime. The patrol cars also reach this location in order to contact the caller. The researcher frequently records this address, incorrectly, as the crime location. This has the effect of concentrating crime spread over a geographic region to a single point. However, this can issue be addressed once the patterns are identified.

Second is the question of crimes that take place in the public space, which does not have a specific address. Crimes occurring on streets and alleys have to be attributed a particular address. Such an instance of crime has harmful effects in a wider area, and this calls for an inclusive definition of hotspots. If crime occurs in a private enclosed space, one only needs to include the actual address. It is also debatable whether police can prevent indoor crimes.

The third is the issue of boundaries between two areas which seems clearly demarcated on the map, but is not so in the real world. The area of a hot spot can be imagined as the area, which a patrol officer can observe while on a hot spot patrol. However, the deterrent effect of police presence depends more on visibility of the officer by the residents rather than on what the officer can observe. Over time, this specific deterrence aggregates into a general deterrence due to continual police presence. Experiments in hot spot policing support this inference (Sherman and Weisberg, 1995).

Brantingham (1976) has talked about spatial analysis of crime using crime maps. He uses a "cone of resolution," which moves downward from national to city-block level analysis. The appearance of hot spots at national levels is different from the one at state level and so on down to block level. This suggests that hot spots will be a relative term to scale of analysis.

MEASUREMENT OF HOT SPOTS

A number of techniques help in crime mapping and analysis. Areas of crime were highlighted using coloured pins by police agencies. As technology advanced, computer- based techniques for representation and explaining crime have evolved. One of the powerful tools for spatial exploration of crime has been Geographic Information Systems (GIS). The ability to combine spatial and other data makes GIS a powerful tool. The information available to crime analysts is so huge that it becomes necessary to use an intelligent computational system, which is able to integrate a wide variety of data, and can help identify patterns.

The Crime Mapping Research Centre at the National Institute of Justice, United States, has categorized hot spot detection and analysis techniques. They are visual interpretation, chloropleth mapping, grid cell analysis, and spatial autocorrelation and cluster analysis. Twelve different variations on these five classes have been documented and evaluated. The study suggests that though there are a variety of methods used to detect hot spots, no single approach is superior.

Visual Interpretation

Hot spots are mapped many times using visual interpretation. Sherman and Weisberg describe the process of creating a hot spot thus:

We defined hot spots operationally as small clusters of addresses with frequent 'hard' crime call activity, which also had substantial 'soft' crime calls for service... We then limited the

boundaries of each spot conceptually as being easily visible from an epicentre.

... A computer-mapping program, MAPINFO was then employed to locate most of the addresses, so that visual inspection of the computer printouts for each map grid could identify what appeared to be visually connected clusters of these addresses...

These addresses were generated from an archive database of Minneapolis 911 calls maintained by the crime control Institute. A criterion for hot spot identification was the categorization of crimes as hard or soft as proposed by Reiss (1985).

Spatial Autocorrelation

A study by CMRC (1998) suggests that a good approach for detecting hot spots is tests of spatial autocorrelation. Software packages such as CrimeStat 1.1, SpaceStat or SPlus Spatial Statistics conduct these tests at the local or global level. The Getis-Ord statistic (Gi statistic) in SpaceStat provided a very good measure of crime hot spots for Baltimore County in study by Szakas (1998). The work of Craglia et al. (2000) has further supported the utility of spatial correlation and the Gi statistic.

Cluster Analysis

Gordon (1999) suggests that cluster analysis is one of the most useful methods for exploratory data analysis. However, cluster analysis, which is a well-established statistical test, is generally viewed to be less useful as compared to the Gi statistic for spatial autocorrelation (Chainey and Cameron, 2000). Software packages such as SAS, SPSS and SPlus can implement statistical approaches for cluster analysis. However, the cluster analysis algorithms, particularly non-hierarchical versions commonly used in crime analysis such as k-means are not clear nor do they give direction for useful application (Murray and Estivill-Castro, 1998). Perhaps the fault lies in the way these software packages analyze hot spots. Hot spots are spatial phenomena. Therefore, in order to identify high concentrations of crime, tools that treat space appropriately are critical. The existing approaches for cluster analysis are not necessarily ideal when applied to spatially referenced data.

Cluster analysis is a method of classification that places objects in groups based on the characteristics they possess. Clustering algorithms break observations into groups, linking the most similar observations into clusters. This allows analysts to examine the concentration of crime events in small geographical areas as also the links between crime cluster hierarchies. Hierarchical clustering procedures frequently generate local rather than global optima. Levine (1999) suggests that crime distributions with many incidents, such as burglary, have lower threshold distances than distributions with fewer incidents, such as murders. This means different crimes would have different criteria for clustering. Another grey area is the decision on how many points would constitute a meaningful cluster. The definition of cluster varies between individual analysts thus introducing subjectivity.

The analyst can specify the number of clusters for a given set of crime events. This is an important shortcoming of non-hierarchical techniques for hot spot detection. User defined parameters such as k groups build significant subjectivity into analysis. There are many methods

for determining the number of clusters. One effective method is the cubic clustering criterion (CCC). CCC is the test statistic obtained by the SAS software package. Another approach used by Milligan and Cooper (1985) was the Calinski and Harabasz (1974) index. The Calinski and Harabasz (1974) index performs better than CCC for varying cluster group simulation. Milligan and Cooper (1985) assessed the ability of thirty different stopping rules to predict the correct number of clusters in randomly generated data sets. Some rules performed poorly, others performed quite well. Thus, one may conclude that there are no established methods for determining the optimal number of clusters (Levine, 1999).

Cluster analysis thus presents many problematic aspects for crime hot spot detection. More research is required to adapt the existing statistical and other techniques to crime analysis.

Chloropleth Maps

When hot spots cover wider areas such as neighbourhoods, they can be shown using ellipses and chloropleth maps. In case of gangs, one could create a map of the gang areas and shade the areas according to the robbery frequency within each (Eck, 2005). However, there are limitations of such hot spot maps. If the risk of victimization is geographical, even in a small part, then maps are useful. Some analytic technique other than maps may be more useful, if the population of victims is not concentrated along streets or neighbourhoods and is spread out throughout the area. In case of taxicab robberies, which are spread out thinly across the city, police would find bar charts showing characteristics of victims and non-victims more useful than maps (Eck, 2005).

Spatial ellipses

Spatial and temporal Analysis of Crime (STAC) is a spatial tool to find and examine hot spots. It fits a “standard deviational ellipse” to each dense concentration of crime. The size and alignment of the ellipse indicate the underlying crime clusters. Martin et al. (1998) have used STAC in their study of how to reduce incidents in Detroit’s infamous “Devil’s Night” period and several other studies.

One of the advantages of STAC is that it does not rely on defined boundaries such as Census boundaries or police administrative divisions., requires few parameters and is compatible with most GIS applications (Martin et al., 1998). One of the problems is that the availability of choice in choosing parameter values leads to ambiguity and variability in results (Eck et al., 2005). Another is that crime hot spots do not naturally form into ellipses, thus STAC ellipses do not represent the actual spatial distribution of crime. The last difficulty associated with STAC is that visualization of ellipses negates any comparison with events that do not fall into the spatial ellipses (Eck et al., 2005)

Thematic mapping of geographic boundary areas

Police beats, census blocks or wards are arbitrarily defined for administrative use in case of thematic mapping of geographic boundary areas. Such maps are also called chloropleth maps. The geographic areas are shaded in accordance with the number of crimes that fall within them. A

handy feature is that such maps allow the user to zoom in a particular area of interest. They can also be linked with other data sources such as population – increasing their versatility for analysis. However, this method is not without its disadvantages. The varying size and shapes of areas can beguile the analyst in identifying the highest concentrations of crime (Eck et al., 2005). The Modifiable Areal Unit problem (MAUP; Openshaw, 1984) produces further complications. A change in the boundaries of areas directly affects the patterns on the map in this case.

Grid Thematic mapping

The use of uniform grids in a GIS as a layer over the study area can overcome the problems associated with unequal sizes and shapes. All areas used for thematic shading are of consistent dimensions and allow quick identification of hot spots. LeBeau has used this technique to map the volume of emergency calls and violent offenses per square mile in North Carolina. One problem associated with this approach is that it restricts how the hot spots are displayed. Spatial detail within each quadrant is lost. Its blocky appearance has also been seen as a problem (Home Office, 2001; Chainey and Ratcliffe, 2005; Eck et al., 2005), which is affected by the grid cell size. Reducing the grid size can destroy the resolution of the thematic map by making it look “speckly”. Grid thematic mapping also suffers from the same MAUP problems as mentioned above (Bailey and Gatrell, 1995).

Kernel density estimation (KDE)

This is an increasingly popular method and is widely regarded as the most suitable spatial analysis technique for visualizing crime data (McGuire and Williamson, 1999; Williamson et al., 1999, 2001; Chainey et al., 2002; Chainey and Ratcliffe, 2005; Eck et al., 2005). It is accurate and its maps have a better aesthetic look. Crime is represented by means of a continuous surface that represents the density or volume of crime events across the desired area. A smooth surface map is produced with no need to conform to any fixed geometric shape such as an ellipse. One problem is the choice of thematic range to use. Police agencies are caught in the lure of the visual image and do not question the validity or statistical robustness of the map (Eck et al., 2005). There is no universal doctrine to use in setting parameters such as grid cell size and bandwidth (search radius). This gives rise to variability in maps produced from the same statistical data. However, the KDE technique is in widespread use because of its visual impact as well as its capability to analyze hot spots through a statistically robust methodology (Williamson et al., 1999; Chainey et al., 2002; Chainey and Ratcliffe, 2005; Eck et al., 2005).

APPLICATIONS OF HOTSPOTS ANALYSIS USING VARIOUS TECHNIQUES

Several authors have used the above mentioned methods for hotspots analysis. These are presented in the form of a table as below.

S No.	Author	Data to analyze	Method Used	Assessment
1	Braga, Anthony A and Brenda J. Bond (2008)	a. Citizen's call for service b. Observed Disorder c. Displacement/ Diffusion Effects	SARA (Scanning, Analysis, Response and Assessment) Geospatial analysis	Consistent results were obtained
2.	Martin et al. (1998)	Instances of crime	STAC (Spatial and temporary Analysis of Crime)	No need of reliance on defined boundaries such as census units or police unit boundaries. However, user needs to be well versed in software. Also, hotspots do not naturally fall into ellipses
3.	Hirschfield (1999)	in a study of links between crime and disadvantage in NW England	-do-	-do-
4.	Ratcliffe and Mc Cullagh (2001)	Vehicle Theft	Thematic Mapping	Requires little expertise, enables quick determination of high crime areas. User can zoom in desired areas. However, due to varying shapes of boundaries, identifying areas of high crime concentration can be misleading. Thus, patterns within boundaries are not revealed.
5.	Harries (1999)	Repeat burglaries across	-do-	-do-
6.	Le Beau (2001)	a. Volume of emergency calls b. Violent offenses per square mile	Grid thematic mapping	All areas are of consistent dimensions and comparable, so easy identification of hot spots. However, no detail within grids is available and it has a 'blocky' appearance.
7.	Bowers et al.,(2001)	Vulnerable residences where target hardening was later implemented	-do-	-do-
8.	Chainey, Tompson, Uhlig (2008)	A comparative analysis of various techniques such as point mapping, thematic mapping of geographic areas (e.g. Census areas), spatial ellipses, grid thematic mapping and kernel density estimation (KDE)	Kernel density estimation	Accuracy of identification and aesthetic look of map. It produces a smooth surface map, with no restriction on shapes such as ellipses. Its flexibility is a problem as there is no universal doctrine on how to set parameters for grid size etc.
9.	Lavery, Schuck (2009)	Analysis of violent crime locations of Chicago	-do-	-do-

HOTSPOTS CRIME ANALYSIS IN INDIA

Many police agencies are trying to develop a hotspots analysis strategy in India. Cluster analysis has been used to identify hotspots and safe zones of crime in Uttar Pradesh using a geo spatial approach by Kumar et al. (2012). Delhi Police has obtained a software called CMAPS (Crime Mapping Analytics and Predictive System). It uses the Delhi Police's Dial 100 call data and ISRO's satellite imagery. The system attempts to locate the telephone calls which are received on Number 100 and visualizes them as clusters to identify hotspots.

Jharkhand police has partnered with Open Group on E governance (OGE). This group is attempting to develop capabilities in hotspots and predictive policing. Maharashtra plans to have a Computer Emergency Response Team (CERT), which will work on social media and crime hotspots. The National Crime Records Bureau (NCRB) has partnered with Advanced Data Research Institute (ADRIN) at Hyderabad to develop a software to utilize crime data for analytics including hotspots analysis. Maddipatla, Qureshi and Verma (2018) have used official crime data of Faridabad district in Haryana to generate maps of crime hotspots of vehicle theft, Excise Act and fatal accidents using Q-GIS (an open source software). However, the application of any form of hotspots analysis has so far not been implemented at the district level in the country so far. Other hotspots to reduce crime-future directions.

A longitudinal relationship between adolescent day time sleepiness and criminal offending in adult life has been established (Raine & Venables, 2017). It is reported that sleepy adolescents are more likely to be antisocial during adulthood and are 4.5 times more likely to commit crime by the age of 29. It has been demonstrated that association of social adversity with adult crime is partly explained by sleepiness. Low self-control mediates the relationship between sleep deprivation and delinquency (Meldrum, Barnes, & Hay, 2015). Disturbed sleep has been reported as an associated factor of aggressive behavior in 19 male prisoners in the Netherlands (Meijers, Harte, & Scherder, 2015). Sleep deprivation has also been suggested as a causal factor for domestic violence (Hoshino et al., 2009). Potential mechanisms mediating the relationship between sleep deprivation and aggressive behavior are reduced prefrontal cortex functioning, increased emotional instability and altered serotonin levels (Kamphuis, Meerlo, Koolhaas, & Lancel, 2012).

A geographic hotspot map of insufficient sleep has been generated (Grandner et al., 2015). They used data from 424,989 respondents of 2009 Behavioural Risk Factor Surveillance System by the Centres of Disease Control and Prevention. This contained information from 2231 counties in the US. Spatial concentrations of insufficient sleep were generated using Getis-Ord G^* statistics of local spatial concentration. They found 84 hotspots and 45 coldspots of insufficient sleep in the US.

Treatment of sleep disorders has been proposed as aggression reducing and crime preventing treatment program (Kamphuis et al., 2012). The comparison of sleep hotspots to crime hotspots would be a pertinent research focus. If found overlapping, an experimental interventional strategy to reduce crime by reducing sleep deprivation and treating sleep disorders may be of use in crime prevention strategy.

CONCLUSIONS

Hot spot analysis is a powerful tool to isolate areas of high crime incidence. There is a variety of methods available to be used. The rapid advancement in computer technology, particularly GIS, has made the mere representation of crime hot spots on maps earlier to much more intuitive and analytical representations today. However, different kinds of hot spots require different kinds of tools to detect and represent them. Cluster analysis and Kernel Density Estimation have emerged as powerful tools for measurement of hot spots, but there are other techniques available too. It is important to understand the limitations and assumptions of each method before thinking of using them to implement crime prevention strategies.

The reasons for the occurrence of crime have to be determined and appropriate action taken, after identification of crime hot spots. One can look at hot spots as the starting point in the overall crime control strategy. Stopping analysis at the stage of discovery of hot spots would lead to implementation of ineffective responses. Moreover, hot spot mapping has little utility if there is no geographical component to the problem. Such cases require the use of other analytical approaches.



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SOCIAL AND WORKPLACE ISSUES OF LGBT COMMUNITY IN INDIA



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Abstract

Being homosexual in India is a taboo and a social stigma in Indian society. It is not that homosexuality is new to the Indian society, it very much find its existence in history. But still in 21st century LGBT community has to face social discrimination. Sexual minorities in India are the easy victims of the hate crimes, they are easy target who are exploited physically, sexually, verbally. Police and the legal system is considered to be present for those who are victims of such crimes of brutality. But They are often beaten up by police. It shows that they are exploited by the law and legal system itself. Some international surveys show that most of the LGBT people tend to hide their sexual orientation in order to avoid any kind of discrimination, However, it has been found that most of the countries in the world has now begun to accept LGBT in their respective societies. LGBT employee in many surveys has asserted that they have always faced one or another kind of discrimination at work place. They are even forced to quit their jobs and are often paid less than their heterosexual co-workers. The paper tries to find the various social and workplace issues that LGBT community has to face in Indian mainstream society as well as in organisations. The paper also throws light on the various provisions that Indian organisations have brought in order to make workplace LGBT friendly.

Key Words: LGBT, sexual minorities, homosexual, social stigma

Introduction

One of the gay cross dresser Rajesh Yadav from Bilaspur Bihar who is 25 years of age has been gangraped many times and is brutally beaten just because of her sexuality.

“Ayesha Kapoor from Bihar asserted that police come to their house and harass them for money and even sexually abuse them.

In 2014, A doctor from Bangalore stated that he had sexual relations with many men and when someone came to know about this, he was extorted the money from.

These are some of the incidents or we can say atrocities that LGBT community has to face in India. (Parashar) India is the country which is considered to accept and embrace all the culture and tradition. But when it comes to the acceptance of homosexuality in mainstream society, Indian society remains rigid and still when the whole world is accepting LGBT community, we don't want to accept LGBT person in our so-called modern society. Irony of the situation is that LGBT people do not get their complaints registered in police station as they fear more exploitation by the law. They fear that complaining any FIR or reporting such incidents of injustice against them to

police may expose them to the society, since LGBT people often don't reveal their sexual orientation.

LGBT refers to the people who are attracted to the person of same sex, these are group of Lesbian, gay, bisexual, transgender person. Homosexuality is not new in India, It is found to exist in History as can be seen in sculptures of Ajanta & Ellora caves etc, but still homosexuality is considered to be an offence, in India homosexuality is still considered to be a taboo and is regarded as social stigma. One of the important reasons for this is the Legal system of India, which has labelled it as unnatural offence. It is considered that Legal system should evolve according to the need of the society and there should be non-discriminatory law, but IPC's section 377 once criminalized homosexuality. However, homosexuality is no more a crime and also last year Supreme court legalised same sex marriage in India. This decision is considered to be a milestone in history of LGBT community. It is being seen as the turning point as it may increase the acceptance of LGBT person in the mainstream society and would change the perception of the society towards LGBT. Homosexual people are still striving against the law as well as against the society in order to mark their respectful presence in the society.

Acceptance of LGBT over the world

The acceptance of homosexuality has gained momentum over the world. (AARP research) In a survey done in European Union around 88% people in Spain were in favour of acceptance of Homosexuality. 87% in Germany and 77% in France population is also willing to accept homosexuality. Canada also have highly positive results with around 80% of population agreeing to accept LGBT community, However, these views are not this positive in case of U.S. where only 60%of population believes that Homosexuality should gain acceptance. The Asia/ pacific region which is considered to be a region of negative view bout homosexuality, here 79% Australian and 73% Philippines population accepts LGBT population whereas Japan has lower results with only 54% acceptance of homosexuality amongst their population.

African and Muslim countries still remain the least accepting countries as far as Homosexuality is considered, However Kenya and Nigeria have high rate of acceptance towards LGBT.

In Jordan around 97 % of population asserted that homosexuality should be rejected. Also, in China and South Korea people in large are not willing to accept homosexuality among their society.

Gender Gap on Views of Homosexuality			
% Homosexuality Should be accepted	Men %	Women %	Diff
Israel	31	48	+ 17
Venezuela	44	59	+ 15
Britain	69	83	+ 14
Japan	47	61	+ 14
Chile	62	74	+ 12
Greece	47	59	+ 12
France	72	82	+ 10
U.S.	55	65	+ 10
Only countries with a double digit gender gap shown. PEW RESEARCH CENTER Q27.			

Sources: Pew research centerQ27

Health issues of LGBT In India

It is estimated that there are about 2.5 million gay people who have declared that they are homosexual to the health ministry.

There is no official data on the LGBT population in India, but the government estimates there are 2.5 million gay people, reflecting those who have declared their sexuality to the health ministry. In an Interview it was found that the LGBT people disclose their sexual orientation to their family because of being shunned by the cost of hiding their sexual orientation because of the fear of social rejection and isolation and also because of high vulnerability to police abuse and sexual assault. This community do not have any access to legal resources in order to protect them against this discrimination.

A survey in China as of August 2014 found that 37 % of LGBT people worked only with organisation which are gay friendly. Only 3% of LGBT people disclosed their sexual orientation completely a per this survey.

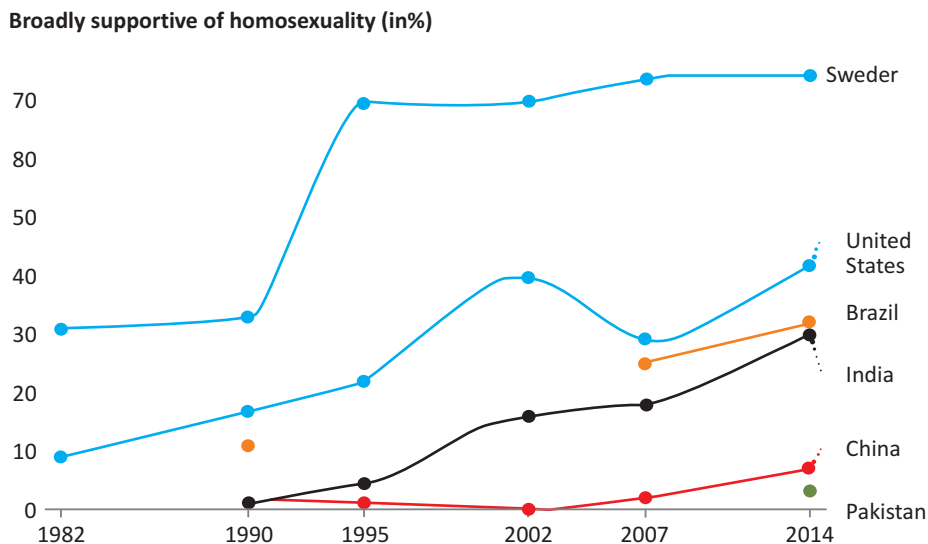
LGBT community is the soft target of hate crimes. Hate crimes refer to prejudice motivated crime which occurs when on targets a person or a group of people because they belong to a specific social group, class or race. Hate crimes are not motivated by some personal factors but are expected to occur when some so-called societal norms are broken. LGBT community is the soft target of hate crimes. Being weaker section of the society, these people are often targeted, and they become the victim of some heinous crime. On-going through some references it was found that gay people are often are targeted by others to have forceful unnatural sex with them. They are even gangraped and in some cases they are even murdered. It is not that lesbians do not have to face any criminal situations. Lesbians are forced into unhappy marriages and in some cases, they are forced into corrective rapes which is considered to be a kind of treatment for their “illness” or “disorder”. India has witnessed a high percentage of hate crimes against LGBT population.

The society looks at the homosexuality with the disgust and hatred and are often the society considers homosexual less than human being. The law, mainstream culture and the societal values is unfavourable towards sexual minorities, this is the reason, homosexuals are not open about their sexual orientation which society defines as “Illicit” relations. These people often face Illegal detention and they are often addressed using filthy languages or abuses. They are often extorted, sexually or physically abused and are blackmailed by the Police itself.

Society

The society denies and rejects LGBT community under various undefined pretexts. The society often exposes them to constant abuse and discrimination

The society works on the basis of Heterosexism and it establishes only male-female relations to be valid and accepted by the society and makes other relations unfit for society.



Broadly supportive refers to the sum of responses rated 5 and above out of 10 to the question "do you believe homosexuality is justifiable?" with 0 being "never justifiable" and 10 being "always justifiable."

Source: World Values Survey - [Get the data](#) - Created with Datawrapper

Sources-World value Survey(Badget, Lee,M.V., 2014)

Family

Most Indian families socialize children into heterosexual marriages. And if any of the LGBT child comes out in front of their families, the families do not accept such relations and in some cases they often completely disown their child. In case of lesbian child, the girls are forced into marriages or corrective rapes, the so-called medication for their disorder.

- In one of the reported cases of a boy studying in a reputed college in Bangalore, the boy reported that when he came out to his parents about his sexual orientation, they completely disowned him, they even didn't pay his fees. However, after a year they mollified and accepted him.
- In another case, the mother when came to know about his son being gay, she threatened to take legal action against his son.

There have been many cases, where LGBT couples or individual commit suicide as they are rejected by the families and society and are discriminated which force them to take action like suicide.

However, gradually the perception of the society is changing towards Same sex marriage. There are many families which have come forward and accepted their homosexual child. The society has begun to widen their perspective towards LGBT person, in fact the youth has begun to embrace homosexuality open heartedly.

But still there are stereotypes which see homosexuality as a form of sex work and gay people are often pushed into prostitution probably for economic reasons. Although metropolitan

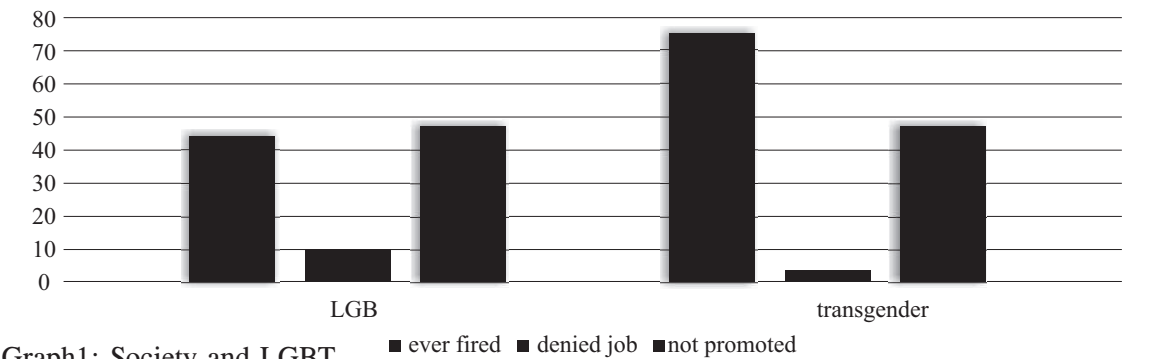
cities have begun to accept homosexuality but outside these cities the portrayal of sexual minorities is not only minimal but is also generally negative.

Workspace

A workplace should be cohesive and inclusive of all the sections. Any kind of discrimination at workplace affects directly the productivity of the employees which ultimately affect the economic perspectives of the organizations. Most of the organizations, over the world has begun to adopt LGBT friendly policies and follow LGBT non-discriminatory policies. It is considered that having LGBT friendly environment at workplace brings new dimension to the workforce, for instance, diverse workforce, greater ideas and innovations, also it enhances the economic perspectives of the organizations. In a survey in year 2013 it was found that college educated white collared LGBT workers accepted that they have always encountered various forms of discrimination at workplace and in society. These results mark that such discrimination can have an adverse effect on the economic contribution of sexual minorities and it can also result in underemployment, lower productivity, lower job satisfaction amongst LGBT community which will drive them to the poverty thus more deteriorating their socio economic and mental conditions.

But many surveys report high rate of discrimination against LGBT employees. They are fired from job when the organisation comes to know about their sexual orientation, they are denied a job being gay, or if they are working, they are not promoted and often they are paid less than their co-workers. In a survey it was found that amongst LGB around 44% of them were fired when their organisation came to know about their being homosexual, this ratio was comparatively high in case of transgenders, which was found to be 67%. Around 11% LGB and 3% Transgenders were denied the jobs and 46% of LGB and 30% of transgenders were not promoted at their work.

Graph: Ever denied a job, denied jobs, not promoted in job.



Graph1: Society and LGBT

Many Indian companies have also begun to have LGBT friendly policies. Companies like IBM, Infosys, Godrej have adopted non-discriminatory policies. WIPRO is the first Indian organization to have gender neutral workplace.

Conclusion

It is evident that LGBT community has to face discrimination in almost all fronts of their lives and almost from every person they meet tend to abuse or harass them either physically or mentally. They are in large the victims of hate crimes not only in India but all over the world, which shows the high percentage of arrogance and hatred that others have for LGBT minorities. They are often beaten up, forced into prostitution or families force them into unhappy marriages.

The societal pressure often forces them to conceal their sexual orientation which often brings them under mental stress.

However, the society is gradually changing its perspectives toward Homosexuality and is very much clear from the data above that most of the Asian and European countries are coming forward to accept LGBT in the society, study shows that more than 75% population in these countries are willing to accept LGBT, however the results are not so satisfactory in predominated Muslim countries, only less than 50% population accepts LGBT in society. Youth especially is widely accepting them in the society as well as at workplace. But this is the scenario only in metropolitan cities, rural areas are still rigid when it comes to acceptance of LGBT person. Only 37% of gay reported that workplaces in India are Gay friendly, this shows the lack of support that LGBT employee gains in any Indian organisations.

Over the world 80% of LGBT population revealed that they often have social support network, however their families are a weak support system. These figures show that over the world LGBT community is gaining support and acceptance but in order to bring out a stronger support system network for LGBT in India, Govt, law, legal system as well as the society has to be made aware or this community will have to continue to live the life of dual identity, disgrace and hatred for many more years which also wastes resources and energy of homosexual people to hide their true selves and also make them less productive at work.

It is the high time that proper initiatives are taken in order to make LGBT people aware about the provisions that government provides them. Social media, films, theatres, activists, law and legal system together should make efforts to reduce the crimes against them and also it could help to reduce discrimination against them. It will help LGBT person to live with freedom with their own choices and culture. It would also help them to not to waste their energy and resources in hiding their sexual orientation and they will be more productive, after all they are humans like us.

Police and LGBT

Law is supposed to be there to help people and protect them against any kind of social injustice. Police should be more conducive and empathetic towards LGBT community. They should not fear in approaching police whenever needed. There have been reported incidents where even police tend to exploit them. Thus, it becomes the duty of Law to keep a watch on such incident. After all they are also human, and they deserve respect, equality and equity in the society which can be ensured and assured by Police and legal system.

Recommendations

This study shows that LGBT community is one of the most discriminated section of the society. Thus, in order to raise this section of the society both the government and the laws should be more responsive to the needs of LGBT community. The society should be made more aware towards LGBT community. Provision should be made about proper education, health, jobs and future security of LGBT in the society. Being homosexual is not a crime, so they should not be illtreated by the law and legal system has to be made more stronger as far as they case of hate crimes against homosexual is considered. Hence in order to uplift this community it is important that every other section becomes aware and courteous to them.



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THE OBLIVION OF SERIAL HOMICIDE IN THE INDIAN CRIMINAL CONTEXT



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Definition

The serial killing or serial homicide is fundamentally understood as an unlawful homicide of at least two or more individuals by the same person in at least two different settings. This differentiates against mass killing, which is associated with killing multiple individuals in the same situation. Whilst this conception is not legally recognized across various legal codes such as United States, United Kingdom, India and so forth, it has emerged to be a significant issue in the global crime prevention scenario.

Origin

The origins of this criminological phenomenon are not particularly highlighted owing to the dynamic and inculcating nature of the definition. But notable cases agreed upon by criminological historians include Gille De Rais from the fifteenth century, a paedophilic serial killer who raped, sodomized and killed children, Elizabeth Bathory, who killed young women with the intent of sadistic pleasure and so forth into the legends of Jack the Ripper for Victorian England. However, the practical cases of alarming concern emerged in the latter half of the twentieth century, predominantly in western nations. The famous cases include Ted Bundy, John Wayne Gacy, Ian Brady and so forth. The alarming rate of motiveless crime has ever since fused into the popular fiction and lifestyle symbolism at a global level. The historical perspective and literature on serial homicide are restrictively associated with western elements. The aberrational psychological tendencies were assumed to be a characteristic of western lifestyle and thought which was individualistic and flexible by cultural customs. Over time, this was proven wrong by landmark cases such as Andrei Chikatillo, Alexander Spesivtsev, Javed Iqbal, Jaishankar S and many other criminals who emerged from the Russia, Pakistan and India respectively. However, the origination, dynamics and responsible factors for the phenomenon of serial homicide in the collectivistic and society driven culture of the east are practically non-existent. The criminological analysis of identifying a serial homicide is extremely poor in developing countries owing to the other significant criminal struggles in the nation. The root of the problem lies in not being able to recognise the existence of the issue itself.

Indian context

Legal concerning the Indian context of legal code, criminal investigation procedure and socio-cultural perspective, this oblivion towards serial homicide is understood by initiating from the legal definition of murder in the criminal procedure code followed in the Indian legal system.

Murder

A special case in the section allotted to ‘culpable homicide’, which is covered by sections 299 and 300. The legal system identifies murder as one of the two possibilities - murder – the direct action with the intent of killing someone and the individual is fully aware that the victim would die if and when engaged in the procedure of intent by the perpetrator. For instance, this can be exemplified by a knife stabbing or a gun shooting with the intent to kill the other person.

Culpable homicide not amounting to murder

This is a homicidal variant in which the intention of killing exists, death is inflicted on the victim by conscious means to kill either by bodily injury and is known to the offender, or to cause physical injury and the offender is consciously aware of the consequences where the injury is sufficient to cause death of an individual along with the knowledge that the act committed is dangerous enough in all probabilities to cause death.. For instance, when you know someone would die if they operate a faulty switch on a transformer and intentionally damage it to cause death, then it would fall under this scenario.

Whilst both the classifications seem nearly identical, murder is merely a special case of culpable homicide where the perpetrator attacks the individual by direct involvement, with the intent of kill. Whilst a serial killer could be engaging in either or both of the legal violations, the main point of concern that puts him/her apart from the other classes of homicidal perpetrators is the motive to kill. Motives tend to be aberrant and rationally non-existent in these cases and also, the lack of official legal recognition of the phenomenon poses a problem of classification to the legal system to execute the necessary code of punishment. Also, the psychiatric intervention against the perpetrator is a fluidic element of control which is often exploited for mental asylum to escape the equivalent of legal punishment at least temporarily.

Police and investigative procedure

Whilst legal aspects are key to executing judgment, fundamental problems are also existent in the investigative procedure in India. A criminal investigation is predominantly a police procedure, but in case of serial killers, especially the ones who tend to move across states and maintain a low dynamic profile to avoid being recognized or followed, the procedure tends to be short of efficiency. The police authorities do not necessarily link the cases because of the change in jurisdiction across crimes, subtle aberrations in modus operandi with a unifying underlying meaning and many other factors. The lack of legal and criminal infrastructural imposition to consider a serial homicide would fundamentally leave the surface option of considering the crime as singular whilst investigating the same. In the best-case scenario, this leads to delayed results if any and in the worst possibility; it leads to the arrest of innocent individuals unable to defend themselves. This exhibits a striking need for psychological intervention and education in criminal investigation procedures through structural and operational transformations. Often cases escalate to a higher priority, depending on the intensity of the case and the associated civil unrest. The pan-investigative framework lists over thirty divisions specialising in various fields of interest. The organisation that specializes in a criminal investigation is Central Bureau of Investigation (CBI). Its functionality is distributed across seven divisions, namely.

- Special crimes division
- Policy & coordination division
- Anti-corruption division
- Administration division
- Directorate of prosecution
- Economic offences division
- Central forensic science laboratory

Along the operational ability of these divisions, serial homicides are handled by special crimes division as exemplified in the Noida 2006 serial murders and so forth. This division is specifically directed at handling mafia criminal dynamics, terrorist activities, explosions, hostage situations and homicides that garner significant national interest and attention. Looking the over the elements of capability, the closest division that could be associated with the legal intervention of serial homicides is only summoned in the cases of ‘sensational’ homicides. Even the specialized branch of investigation does not cater to the needs of this growing criminal phenomenon, stressing on an eminent need to establish the required infrastructure.

Informational System

Whilst the police and legal elements are crucial to the emergence of a new system to battle serial homicides, it is equally important to enrich the present system of connectivity in the police system. A virtual police database to enable data accessibility across the state and central police departments were christened in 2009 by the name, crime and criminal tracking network and systems (CCTNS). It is an integrative and comprehensive system for policing through electronic governance. It is the evolved emergence from CIPA (common integrated police application) and CCIS (crime and criminal information system) which emerged in 1995 and 2004 respectively to facilitate information access across various hierarchies of police database and digitalise the first information report (fir) to integrate elements of a case into legal proceedings in real-time rather than consuming time over the red tape hindrance. Whilst CCTNS is a theoretically robust concept, that builds information from the earth level of police interaction and channels the information across higher levels for both access and record-keeping, it tends to experience severe practical issues in function. The present dynamics of this system enable it to function as a record-keeping database whilst the most important ability of integration of police information across state and union territory borders is still missing. This is exemplified by the inability to coordinate the missing person characteristics with the new inputs from different cases where the data is merely arranged into static stack variants rather than dynamic interactive classification. The synchronisation full stop is a seven-day interval which tin prove to be a viable window of escape to a criminal on the move whilst the cases before CCTNS emergence are still a paper-driven database with overdue of various cases yet to be digitalized. Also, the information system is not capable of forming associations between the modus operandi and the possible similarities between case files to ease the process of investigation. Whilst it is a practically possible venture to indulge machine learning in this process and ascend the efficiency of the mere collective database, it could be a question of cyber security to open the access of sensitive information to progressive cyberspace.

Nevertheless, the data is still a mere raw component for the trial and error procedure of police investigation.

Lack of specialized programs and training

Another element of importance is the lack of specialized training of police personnel to engage in serial crime investigation. The realm of serial homicide resonates with psychological analysis more than any other associated field and hence, it would be necessary for the respective investigative personnel to get the required conceptual training in psychology and associated applications concerning serial homicide. Significant literature exists in this aspect, such as the criminal profiling elements, behavioural-motivational typology and so forth. Also, the lack of Indian equivalent of VICAP (violent criminal apprehension programme) which is integrative of cases of sexual assault, homicides, kidnaps irrespective of being random, sexual, ransom orientated or a serial missing cases string with possible foul play indications. It correlates and tracks the individuals and cases concerning the above points to keep a leash on possible serial crime that misses the authorities. Whilst addressing the difference in the governance systems between India and the United States, it is necessary to create our equivalent with focus on the required elements.

Rationale

Whilst the structural and conceptual inefficiencies in the contemporary system have been identified, it is also necessary to provide a rationale onto why the focus on serial homicide in India is a pressing concern and what are the possible means to analyse these dynamics from the existing pool of criminal statistics. National crime records chest of drawers releases an annual document by 'crimes in India' addressing various elements and types of crime along with their statistical data. The records are existent from 1953 and the records about 'state, UT& city-wise motive of murder and culpable homicide not amounting (CHNA) to murder' were utilized to arrive at the rationale and also in constructing the method of explanation. The motive of murder and CHNA statistics were first published in 1971. In this analysis, statistics from 1972 to 2015 were considered owing to their similar structure of documentation and hence making it possible to generate a cumulative conclusion. The statistics are classified based on state and ut data across potential motives. And the data parameter of interest across the years is the all India data from the cumulative of the states and union territories. In the case of motives, the categories were selected from the 2014 revision of the statistical classifications. The motive classification from 1972 and 1987 featured gain, dispute over property, personal vendetta, sexual causes, sudden provocation, lunacy and others. These are given respective columns in murder and culpable homicide not amounting to murder. In 1988, revisions were made to motive categories with the addition of dowry, communalism, casteism, class conflict and merging love affairs with sexual causes in the dual columned parameters of murder and CHNA. Further revision of categories was made in 1999 when the categories of witchcraft, political reasons and terrorism were along with separate statistical data for victims. Finally, the updated revision of 2014 includes the categories of gain, dispute over property, personal vendetta or enmity, lunacy, witchcraft, human sacrifice, communalism, casteism, class conflict, political reasons, honour killing, rape, gang rape, love affairs, kidnapping and abduction,

illicit relationships and others in dual columned murder and CHNA. The present analysis would be utilising the 2014 revision of motive categories and apply the same to data from 1972 to 2015. In the case of unclassified elements such as sexual causes in the 1972-87 classification, they would be marked under 'rape' of 2014 categories whilst leaving gang rape and other sexual associated categories as empty columns.

Primary categories

From the above categories, only the ones which resonate with the fundamental conception of serial homicide are chosen here. And this conception is borrowed from the disorganized classification of serial killers. A serial killing could be a result of a behavioural manifestation of mental disorders such as schizophrenia, delusional disorders and so forth. For instance, a schizophrenic believing that he is killing people as instructed by god to him to erase the sinners. And this could be categorized by murder and CHNA by lunacy. One of the most important elements of serial killing is sexual assault. Various forms of sexual aspects are observed in serial killers. These include sexual asphyxia, necrophilia, substituting stabbing activity for penile intercourse and so forth. And they are done against the will of the victim and hence be categorized as murder and CHNA by rape and murder and CHNA gang-rape respectively. These six categories (three murders and three CHNA) form the primary categories of serial killing.

Secondary categories

However, the categories chosen by NCRB could be ambiguous in terms of motive classification. For example, witchcraft killings could be the work of a schizophrenic who believes in a particular theological force and hence be classified so, whilst it would be a serial homicide of possible lunacy. Categories with a chance of error in classification form the secondary categories and these include gain where the self-proclaimed gains are not necessarily true, witchcraft and child human sacrifice with the possibility of mentally disoriented individuals accomplishing the act and kidnapping and abduction where ransom was never the primary intent but just a means to distract the attention of the investigating forces. This amounts to eight categories with four of murder and CHNA each.

Tertiary categories

Finally, the tertiary categories are included as an aspect of probability owing to the miscellaneous accommodation in the others category by NCRB. So, others in murder and CHNA respectively constitute the last two categories. The present analysis, hence, constitutes of a 16-parameter data segregation of murder motives from 1972 to 2015, discussed along with the specifics of each category.

Lunacy

This category fundamentally accounts for the seemingly motiveless murders where the perpetrator is declared mentally unfit. The trend of this category was relatively stable over 100 cases until 1987, where the cases almost tripled to 348 in 1988 owing to the changing in the definitions of classification criteria. However, a steep rise and autumn are observed in 1992 and 1993, which is unaccounted by any particular reason. And further, along time, the cases were

relatively stable between 50 and 100. Whilst this exhibits a positive prospect, the lack of a comprehensive definition and investigative means to confirm the true presence of a mental disorder makes it a highly vulnerable category masking the serial homicide cases and unintentionally protecting the serial killers until long durations. These individuals often display intense recidivism even after extended periods in mental rehabilitation facilities as exemplified by peter woodcock, Edward Kemper and so forth. And this element makes them a comprehensive threat across extended times irrespective of the relative progress exhibited.

Rape

Murder and culpable homicide by rape need to be addressed on a three-fold basis owing to the change in the definition of category in 1972, 1988 and 2014. In 1972, sexual causes were the category of rape, but it also included elements of lover dispute, marital elements, illicit relationships and anything else that involves sexual activity, but not necessarily non-consensual and/or coerced sex. The rate of rape was doubled during emergency, indicating a social trend of aggression and turmoil distilling into rape. In 1988, when the categorisation was restricted to sexual causes and lover disputes whilst alienating dowry and other related socio-cultural factors such as caste differences in marriage and so forth, it gives a more accurate depiction of the coerced sex elements. A sharp increase has been observed in the rape cases from 1988 until at least the beginning of the twenty-first century. This tin be explained by the correlated measure of globalisation changes where people were opening up to new social orders and hence, the opening up and vulnerability of being sexually attacked by strangers. From 2001, murder rape statistics were also released concerning the proximity of the perpetrator to the victim in terms of a relationship. And the statistics of strangers attacking women sexually has almost tripled from 2001 to 2014, indicating an evolving chance of vulnerability through serial sexual homicide. From 2014, the classification of sexual crimes into rape and gang rape provides the dynamics of better precision since most serial sexual homicides are committed by individuals rather than groups although the motives could be identical with groups such as notions held by Nirbhaya gang rape case offenders and other sex offenders who claim their actions to be a means of punishment for breaking the socio-cultural norm. Along with the historical origins of serial homicide, sexual involvement was invariably involved with a very small parting of the crimes being unrelated to sexual activity, if any. The cases could indulge a varied set of attitudes such as substituting stabbing for penile intercourse in light of erectile dysfunction, harbouring intense hatred for promiscuous women such as prostitutes, sexual perversions of necrophilia, paedophilia, gay rape and so forth. So, it is crucial to analyse the elements of sexual crime statistics alongside murder by rape characteristics to figure out possible attempts of serial rape and molestation before they escalate to full-scale murders. The following cases do not form a direct relation to the functionality and dynamics of serial homicide but only present a reasonable doubt of possibility in the statistics towards this phenomenon and hence explained in that manner.

Gain in the murder motive context, gain often refers to the prerogative of gaining something through the act of ending the life of the individual. Whilst it offers a theoretical clarification, it is often too broad and mixed enough to be mistaken in a practical case scenario.

For example, if a serial killer engages in killing of multiple individuals and simultaneously utilizes the material and emotional gains of indulging in that act, it could be classified as a gain operant statistic whilst the gains were immaterial to the perpetrator, but merely a means of distraction to the legal investigation to secure a less intense punishment and/or sentence. This is often true in the case of highly skilled serial killers with near-genius IQ. For instance, Peter Woodcock would misplace elements of value from his victims to misdirect it as a gain orientated murder and often kept them as souvenirs of the victim. Because of the innate human nature of gaining things, these crimes constitute a significant majority of total murder and culpable homicide with an increasing share of cases along the years.

Witchcraft and child/human sacrifice

These phenomena are predominantly culture-based. Witchcraft refers to the use of spiritual or harmful magic with the intent of causing harm to someone, whilst human sacrifice is the act of killing someone in the name of offering him/her to a deity for their blessings. Both of these harbour intent and actions to kill. Whilst witchcraft only became an official category in 1999 and child/human sacrifice was inculcated in 2014, it must be observed that these elements are a significant, foundational base in our cultures. Across different religious backgrounds, respective dark forms of sacrifice and witchcraft exist. For instance, voodoo magic involving dolls is a popular dark magic element in few parts of Andhra Pradesh and Telangana, whilst sacrificing new-born children and virgin girls is a traditional custom of certain Hindu clans and so forth. The statistical elements show a significant rise from an average of 100 cases in 1999 to nearly 240 in 2011. And these could be the result of mentally distorted beliefs being consumed and relayed by serial killers in their delusional notions. These types of killers are usually referred to as angelic killers as they consider their work to be god-driven and pious.

Kidnapping and abduction

Murder in the process of abduction and kidnapping often possesses the danger of being misinterpreted, especially in case of high IQ serial killers. The killer may propose a deal of ransom to release the victim with no intent to do so and kill the victim long before the process whilst portraying it as an issue of ransom. The possible solution in these cases is to identify the nature of the individual as well as the demands to decode the notions. This may be achieved through hostage negotiators, who specialise in dealing with cases of kidnap. These individuals are equipped with the psychological knowledge of analysis and may utilise the same to assess the authenticity of the perpetrator's offer. In spite of only possessing data from 2014 and 2015, it shows a significant rise in the number of cases and hence, relays the pressing need for psychological knowledge of hostage negotiation.

Others

This category constitutes the paramount importance among all the above owing to the figures in the total number of murders and CHNA combined. Because the percentage of the miscellaneous, non-categorized cases constitute at least 45% across all the years initiating from 47.6 % of the total cases in 1972 to 49.5 cases in 2014. There has been a steady increase in 'others' cases along time with steep rises in 1985, 1988 and 1990. It has relatively stabilized over the last

decade of the twentieth century with the slow but gradual progress of cases in the early twenty-first century. The inability to categorise often involves multiple category conflict or lack of effective motive to classify in either category. This poses the biggest masking site for serial homicide since it is not possible to identify the motiveless crime pattern without accommodating serial homicide investigative techniques and these statistics resonate with the same. Also, a significant pattern can be observed in the increase of CHNA cases in the recent years starting from 1995 till 2015 where the means of murder are rather hideous than direct contact killing and pose a risk whilst exhibiting resonance with high intelligence homicides. Owing to the increasing nature of complex and/or mysterious homicides, it is necessary to adopt the serial homicide framework. Whilst the entire analysis is based upon the statistics obtained from NCRB, it must be noted that data discrepancies were observed between murder rape data of women in rape statistics and murder rape data in motive of murder and CHNA statistics, with the latter being significantly low in 2015 at 171 whilst the rape data shows it to be 8291. Hence, this poses the question of data authenticity to gauge the practical intensity of the situation. Also, it must be noted that this analysis is solely dependent upon the registered cases and the actuality would only be infested with more possible cases and offences.

Shortcomings

The shortcomings of this analysis include the assumption of homogenisation between the revised categories of 1972, 1988 and 2014. Also, the impact of secondary categories is assumed to be significant on a practical margin. And finally, the general scope of statistical error in the NCRB data applies to the conclusions derived from it. Conclusion serial homicide is by and large ignored in the criminal investigative and analytical framework of most third world nations. In India, the need to recognise the alarmingly possible inept classification of serial homicides in the country's crime databases is now higher than ever. The necessary human resources and infrastructure should also be established instead of the investigative framework to handle the issue of serial homicides in the most effective manner. Existing models of FBI, Interpol can be utilized to restructure the foundations suitable to the Indian criminal context and police procedures.



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POLICE PERSONNEL ARE THEY GAINFULLY EMPLOYED



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Abstract

Healthy Physical environment is a part of happiness at work where it is obvious that management cares about the welfare of workers. An employee always seeks energy and value greatly from gainful activity. Gainful employment nourishes energy. This concept of positive psychology helps to explore the importance of employment and work. Employees work to fulfil their needs in life. "Gainful employment is the most reliable means of obtaining the fundamental benefits, privileges and satisfactions such as economic, security, social status, family and social prerogatives, medical benefits, recreational and educational opportunities." Most of the research findings indicate "if people have positive experiences at work, their overall job satisfaction will be higher even if their overall life satisfaction may not be high". The present paper explores Gainful Employment among police personnel. The study was conducted on 300 police personnel posted in Delhi. Gainful Employment Questionnaire was administered to all the research participants. The data has been analyzed using descriptive statistics. The results indicate a significant difference among the higher and lower rank police personnel.

Key Words: Healthy Physical environment, Police Personnel and Gainful employment.

Introduction

In today's competitive business environment, human resources management has become a challenging job as the technology is changing day by day. Organizational environment plays an important role in gaining competitive advantage. Work environment should be of such type that one should maintain balance between work and non-work life. It should enhance the health, wellbeing, job security and job satisfaction of employees. To have a meaningful work life on daily basis, Work life balance serves as an essential factor, maintained by the employees of a business organization. According to White & Bednar (1991) work in any organization should be designed in such manner that employees' leisure and family time should not be hampered on regular basis by the work schedules, career demands, and travel requirements of the job. Hodgetts & Luthans, (2000) defined job design as, "a function of the work done in the way as the management want". A good job design is that in which the workers have the opportunity to achieve high levels of job performance.

Findings also revealed that alternative work schedules should be used according to the needs of the employees.

Present time, life is full of challenges with minimum time frame to complete the task. Such time bound tasks cause stress. Sometimes stress motivates a person but constant stress creates pressure on both mind and body causing inability to live a normal life. Hence, in order to get relief from prolonged stress people use different type of coping methods like overeating, smoking and other bad habits. It has been observed that chronic level of stress and lack of social support increases cardiovascular risk. Overall stress symptoms affect not only the body but also our thoughts, feelings, and behaviour.

Police services are one of the most challenging and stressful services in India. Study on Police officers done by Siwach(2000)observed that “Police Officers play a very significant role for maintaining law and order in the society. They are supposed to implement all the criminal laws for which they work round the clock, and also without any leave or break. It causes remarkable mental pressure and physical exertion on them. As a result, sometimes a few of them may have violent outbursts and take leave without any prior notice. Even they are at high risk of being exposed to psychologically straining situations and potentially psycho traumatic experiences.”Study by Sharan(2009) also observed that “police officers sometimes work under pressure and are stressed”. Studies in majority of Indian and international Journals have found high stress levels in police leading to many physiological and psychological problems. Therefore, to do justice to their duties, they have to be both physically as well as mentally fit.

Stress among police officers has a harmful effect on the law enforcement organization. To decrease stress among police officers, a wide variety of stress management interventions are provided by the Law enforcement organizations. Research has found that police officers exhibit maladaptive behaviour and personality traits when they have difficulties in coping with stress. It has been observed that stress affects their job performance as well as their relationships and personal lives. Work stress has a significant effect on quality of work life.

To increase positivity in police officers a new construct is emerged which is required to sustain the performance, motivation, commitment toward goal and loyalty for extended period of time. Waddell & Burton (2006)“Majority of studies in the past have focused on occupational stress rather than the wider positive construct of well-being, and also can be defined as a subjective state that draws on multiple dimensions including physical, material, social, emotional, developmental, and activity-based issues. A growing number of studies done by Danna &Griffin, (1999), Harter, Schmidt,&Keyes,(2002), and Wright,(2010) and Wright&Cropanzano(2000) are also providing convincing links between the overall well-being of staff and their performance in the workplace”.

GAINFUL EMPLOYMENT

This psychological approach has benefits both for the employees and for the people in management positions. In management, “gainful employment depends on the managers who focus on employee strengths, communicate company goals, and give constructive feedback to employees”. Sigmund Freud emphasized on the relationship between work and fulfilment and observed that “a healthy life is one in which the people have the ability to love and work. When individuals are gainfully employed including a safe working environment, purpose derived from

work, engagement, etc., their quality of life and satisfaction increases. This approach includes identification of talent, integration into one's view of self and changed behaviour at individual level". Study by Clifton and Harter (2003) reported three major steps of strength-based approach to gainful employment are identification, integration and change in behaviour. An employee always seeks energy and value greatly from gainful activity.

Gainful employment nourishes energy. It is the work one can do for income. Management affects job and gainful employment whether good or bad, gainful is personal and desirable to an employee. It is a concept of positive psychology which explores the importance of employment and work and also an essential component of living a perfect life having its positive impact on purpose of life, identity, challenge and social support. Considerable gainful activities are as below:

- **Extensive work activity:** Doing significant physical or mental activities. The employee's work may be significant either it is done on a part-time basis.
- **Gainful work activity:** In this type of work activity employee does work for pay or profit. Work activity is gainful if it is the kind of work usually done for profit.
- **Some other activities:** Generally, the Board does not consider activities like taking care of one's self, household tasks, hobbies, therapy, school attendance, club activities, or social programs to be substantial gainful activity.

Nine Components of gainful employment are:

1. **Variety in duties performed:** Variety in task lead to satisfaction. Repetitive work activities lead to presenteeism, in which the individual physically goes to work, but becomes uncreative or dissatisfied due to boredom with repetition. Presenteeism refers to "Being at work but not being on the job" (i.e. functioning to full capacity) because of illness or other medical conditions (e.g. seasonal allergies, migraine, depression, gastrointestinal disorders etc) (Hemp, 2004).
2. **Safe working environment:** The firm and administration must make certain that working conditions were safe for all the employees. Poor conditions in the workplace can cause stress and make poor health worse. A poor psychological environment (e.g. organizational culture, support, communication, workloads, relationships etc.) at work, can have a substantial negative impact on employee's health, gainfulness, safety, and well-being.
3. **Income for family and self:** Families are struggling to cope with an increasingly complex world. Individuals are struggling to find the right balance between work and family responsibility (William & Shellenberger, 1994). Pay is essential to support oneself, family and lifestyle. Thus, having a supportive employer (and a family friendly culture) improve job satisfaction and morale (AbdulWadud and Snow, 2008).
4. **Deriving purpose in providing a product or service:** An employee may derive aim in

life for the work that they complete. Many individuals describe their work as a calling, or in other words, “a vocation to which the employee brings an excitement and commitment to the work for its own sake”. An employee should know what the organization is aiming to achieve, by when and also how his can be measured. The organization has to communicate these goals quite clearly to employees.

5. **Happiness and satisfaction:** Passion and attitude at work leads to happiness and satisfaction. There must be a close match between an individual’s activities and their knowledge, skills, and attitudes. Thogersen-Ntoumani, C., Fox, K., & Ntoumanis, N. (2005) found that moderate levels of physical activity may also be enough for employees to feel more enthusiastic in the workplace, have increased levels of life satisfaction, and feel better about their physical selves.
6. **Engagement and involvement:** An employee must have an adequate amount of work to complete, have the essential knowledge and assets to complete work, and have the opportunity to perform and grow as a result of work. In a study by Kahneman, Diener, & Schwartz (1999) it was found that most gainfully employed individuals work in setting where the skills of the employee match the skills required for the assigned tasks.
7. **Sense of performing well and meeting goals:** An individual must that they are capable of performing well at work and exceeding the goals that he or she sets. In order to perform well at work, employees should strive to set SMART (Smart, Measurable, Attainable, Reasonable, and Timely) goals.
8. **Companionship at work:** workplace friendship is “nonexclusive voluntary workplace relations that involve mutual trust, commitment, reciprocal liking and shared interests and values”. Positive friendship has been proven to lead to fewer accidents, more engaged workers, increased achievement, increased job satisfaction, and increased productivity. Workplace friendship facilitates increased communication, respect, securities, and trust among employees(Berman et al .2008)
9. **An environment that respects and appreciates diversity:** To increase diversity, managers should make use of “Diversity Management”. Racial and ethnic diversity are increasing speedily in workplace. An employer should create a more supportive environment at work so that the employees will be able to focus on their jobs.

The main aim of Gainful employment program is to put up a graduate student into the job where he feels comfortable and satisfied with working conditions. Curry, Wakefield, Price and Mueller (1986)definedjob satisfaction as a global concept referred to overall satisfaction and alsoreferred to various aspects of work such as pay, supervision and workload.Educated workers have been found to be more involved in activities and enjoy higher level of autonomy. They are also less stressed and receive psychological benefits which positively impact on job satisfaction. (Meng, 1990)

Job fit and work environment are the major components of gainful employment. (Harter,

Hayes and Schmidt, 2002) “Workers’ job fit environment and ability to perform well in an organization leads to increased positive states.”An individual’s outlook is also dependent on gainful employment. A study was conducted to assess participants’ outlook. The study findings indicate that employees who had a positive outlook and were happy had greater job satisfaction and success as compared to those with negative ones.Study conducted by Budts and Geest(2006) on 479 police officers observed that “satisfaction with work is forth major category leading to overall life satisfaction. Results also indicate that non-work satisfaction does not replace or compensate for a lack of job satisfaction.”

Luthans and Sweet man (2010)observed Psychological capital as the very important factor of gainful employment. It is also related to work engagement which in turn increases job performance. In one more study conducted by Schaufeli (2013) a link has been noticed between human resource management, employee engagement and performance at the level of the individual and the firm. Work engagement is associated with raised level of performance and enhanced well being.Wen Wand and Jason Heges(2017)observed that establishments which employ workers on a fixed term basis but retain the workers despite their fixed term contract has expired perform much better than those who do not retain the workers and also result higher productivity increase over time.

The above-mentioned reviews have indicated that job fit work environment is the major component of gainful employment. High satisfaction levels contribute to organisational commitment. Most of the research findings indicate, “If people have positive experiences at work, their overall job satisfaction will be higher even if their overall life satisfaction may not be high. Employees who experience high satisfaction levels contribute to organizational commitment, job involvement, improved physical and mental health, and improved quality of life both on and off the job.”

Objective:

- To assess and compare Gainful Employment of lower, middle and high rank police personnel.

Hypothesis:

- There would be no significant difference in Gainful Employment of lower, middle and high rank police personnel.

METHOD

Sample:

Anon- random sample of 300 male police personnel (Delhi Police, CBI, IB) working in Delhi was selected from various ranks of the organizational hierarchy such as Assistant police of commissioners (ACP), Inspectors , Sub- inspectors (SI), Assistant Sub- inspectors(ASI), Head Constables(HC) and Constables(C). All the participants were from urban area and of different marital status. The age range was 25-60 years.

Tools:

- Gainful Employment Questionnaire (Synder& Lopez, 2007):This measure is used to see

what an employee value most in the workplace and how well their current job fits their value system. If there is a good fit between their workplace values and the reality of their workplace, they are likely to be gainfully employed. Gainful Employment scale is developed by Synder and Lopez (2007). It is consisted of nine items; response is to be given in importance. Importance is given in terms of 0=none, 1=very little, 2=some, 3=very, 4=extreme. The term characterized nine benefits of work i.e. Variety in duties performed, Safe working environment, Income for self and family, Deriving purpose in providing a product or service ,Happiness and satisfaction, Engagement and involvement ,Sense of performing well and meeting goals and Companionship and loyalty to co-workers and bosses. The internal consistency (Cronbach Alpha) reliability for this scale is .94. In the “Importance Rating” column, the employee list how important each of the components of gainful employment is to the employee based on the rating scale and in the “Job Grade” column, rate how well their current job meets each of the criteria of gainful employment.

Procedure: Each participant was contacted individually and informed about the purpose of the study. After establishing the rapport, informed consent from each subject was taken. Questionnaires were given and were asked to answer each and every item of all the administered questionnaires. All the subjects were ensured that their responses would be kept confidential. After that analysis of data was done with the help of SPSS and then the result was discussed.

Results and Discussion

To attain the objective and test the postulated hypothesis, scores from all the 300 participants were obtained with the help Gainful Employment Questionnaire. The tool assesses what an employee value the most at the workplace (Importance) and how well his current job fits their value system (Job Grade). If there is a good fit between his importance and the job grade, the person is likely to be gainfully employed. Hence, the objective is studied in two components, first is importance and second is job grade. These are described as:

(A) Importance: The result of mean and S.D. of the three groups on importance can be shown as:

Table 1: Mean and S.D. scores on Gainful Employment (Importance) of the three groups.

	Group I (High Rank)	Group II (Middle Rank)	Group III (Lower Rank)
Mean	26.21	26.66	26.51
S.D.	5.56	4.28	5.43

Table 1shows the mean and standard deviation for the three groups on importance. From the table, it is clear that there are differences among the three groups. The mean of group I, i. e. High Rank police personnel is 26.21 and standard deviation is 5.56. The mean of Group II, i.e. Middle Rank police personnel is26.66 and its Standard Deviation is 4. 28. The mean of Group III, i. e. Lower Rank police personnel is 26.51 and standard deviation is 5.43. The clear representation of the means to see high and low scores can be done by the graphical representation which is given in figure 3.

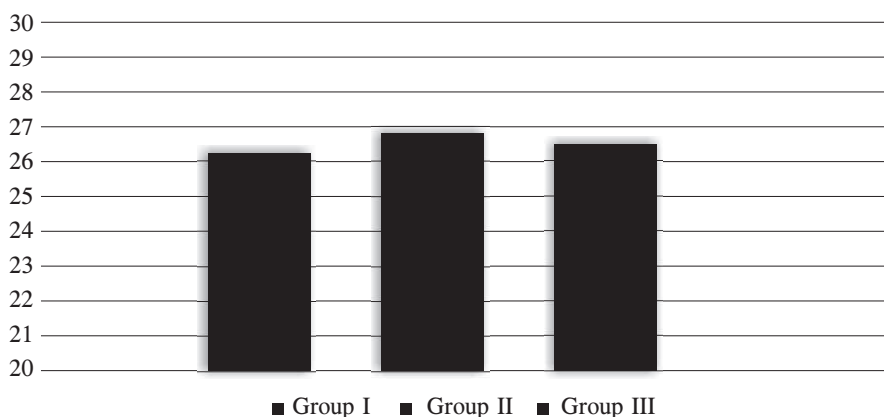


Figure 1: Representing mean scores on Gainful Employment (Importance) of three groups.

From the Figure 1, it is clear that the mean of Group II is highest and the mean of Group I is lowest on importance. So, the Group II has the highest score on importance, and Group I has the lowest score on importance. Middle rank police personnel have the highest score on importance component of Gainful employment. To see whether the three groups are significantly different from each other on importance, F-value was calculated with the help of one-way ANOVA.

Table 2: Application of one-way ANOVA to the scores on Gainful Employment (Importance) across the three groups.

	Sum of Squares	Df	Mean Square	F	P-level
Between Group	10.500	2	5.250	.200	P > .05
Within Group	7800.020	297	26.263		Non Significant
TOTAL	7810.520	299			

Table 2 represents the significance of difference on importance among the groups. The table shows that the F value is .200 which is not significant on .05 level of significance. So, it is clear that the three groups are not significantly different on importance from each other. Therefore, it does not need Post hoc analysis. So, it can be stated that the three groups are not significantly different on importance from each other.

(B) Job Grade: The result of mean and S.D. of the three groups on job grade can be shown as:

Table 3: Mean and S.D. scores on Gainful Employment (job Grade) of the three groups.

	Group I (High Rank)	Group II (Middle Rank)	Group III (Lower Rank)
Mean	78.28	72.30	68.31
S.D.	20.95	20.05	20.50

The above table shows the mean and standard deviation for the three groups on job grade. From the table, it is clear that there are differences among the three groups. The mean of group I, i. e. High Rank police personnel is 78.28 and standard deviation is 20.95. The mean of Group II, i.e. Middle Rank police personnel is 72.30 and its Standard Deviation is 20.05. The mean of Group III, i. e. Lower Rank police personnel is 68.31 and standard deviation is 20.50. The clear representation of the means to see high and low scores can be done by the graphical representation which is given in figure 2.

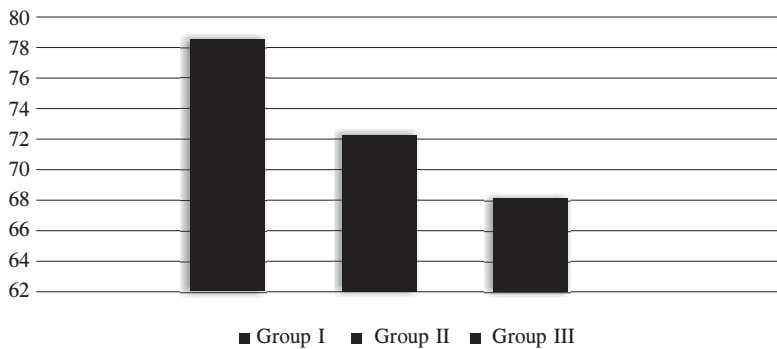


Figure 2: Representing mean scores on Gainful Employment(job grade)of three groups.

From the Figure 2, it is clear that the mean of Group I is highest on job grade and the mean of Group III is lowest. So, Group I has the highest score on job grade and Group III has the lowest score on job grade. To see whether the three groups are significantly different from each other on job grade, F-value was calculated with the help of one-way ANOVA.

Table 4:Application of one-way ANOVA to the scores on Gainful Employment (job grade) across the three groups.

	Sum of Squares	Df	Mean Square	F	P-level
Between Group	5036.047	2	2518.023	5.990	P < .01
Within Group	124842.550	297	420.345		Significant
TOTAL	129878.579	299			

Table 4 represents the significance of difference on job grade among the groups. The table shows that the F value is 5.990 which is significant on .01 level of significance. So, it is clear that the three groups are significantly different on job grade from each other. However, it is not clear that all the mean pairs differ significantly. In order to check the significance of mean difference, post hoc test was used.

Table 5: Significance of mean differences based on Post-hoc test on Gainful Employment (job Grade) of the three groups.

Group Means	Group I (78.28)	Group II (72.30)	Group III (68.31)
Group I (78.28)	-	5.98	9.97*
Group II (72.30)	-	-	3.99
Group III (68.31)	-	-	-

*p < .05

The above table indicates the significance of mean difference among the groups. The mean difference of Group I and Group II is 5.98 which is not significant on .05 level; Group I and Group III is 9.97 which is significant on .05 level; Group II and Group III is 3.99 which is also not significant on .05 level. So, from table, it is clear that higher rank and lower rank police personnel are significantly different from each other on job grade component of Gainful employment.

In order to calculate how many police persons are gainfully employed among the overall sample of 300 police personnel, Average Importance score and Average Importance X Job Grade Score of all the police personnel are calculated. The employee is considered to be gainfully employed, if the “Average Importance x Job Grade Score” is greater than or equal to “Average Importance Score”. By applying the same formula, it has been observed that among higher rank group 63 police persons are gainfully employed, in middle rank group 45 police persons are gainfully employed whereas in lower rank group only 43 police persons are gainfully employed. The results are shown in table 6:

Table 6: Number of Participants Gainfully and Not-Gainfully employed across three groups

Group Means	Higher Rank	Middle Rank	Lower Rank
Gainful Employment	63	45	43
Non-Gainful Employment	37	55	57

Table 6 shows that among over all samples of 300 police persons, 151 are gainfully employed whereas 149 are not gainfully employed. The clear representation of the police persons who are gainfully employed can be done by the graphical representation which is given in figure 3.

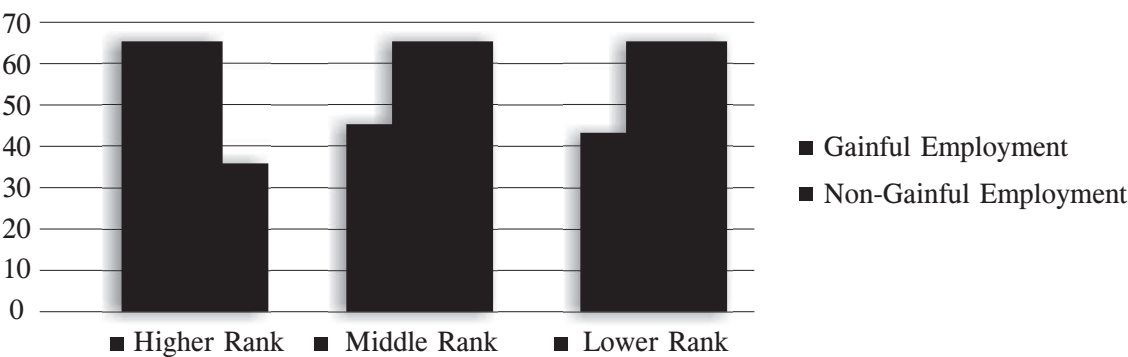


Figure 3: Representing Number of Participants Gainfully and Not-Gainfully employed across three groups

From the Figure3, it is clear that the Group-I is highest on gainful employment and Group III is lowest. Higher rank police personnel are gainfully employed. To see whether the three groups are significantly different from each other on gainful employment Chi square test was calculated.

Table 7: Application of Chi-square on the three groups.

	Higher Rank	Middle Rank	Lower Rank	Total	χ^2
Gainful	63 (50.33)	45 (50.33)	43 (50.33)	151	9.7**
Not Gainful	37 (49.67)	55 (49.67)	57 (49.67)	149	
Total	100	100	100	300	

$P < 0.01^{**}$

The above table indicates the significance of difference on gainful employment among the overall sample. The chi square value is 9.7 and it is significant on .01 level. So, from the table, it is clear that all the three groups are significantly different from each other on Gainful employment. There is a significant association between Gainful employment and rank of police personnel. Table 15 also indicates that higher rank and lower rank police personnel are significantly different from each other on job grade component of Gainful employment.

Table 8: Application of Chi-square on Higher rank group.

Gainful Employment	Not Gainful Employment	Total	χ^2
63	37	100	6.76**
50	50	100	

$P < 0.01^{**}$

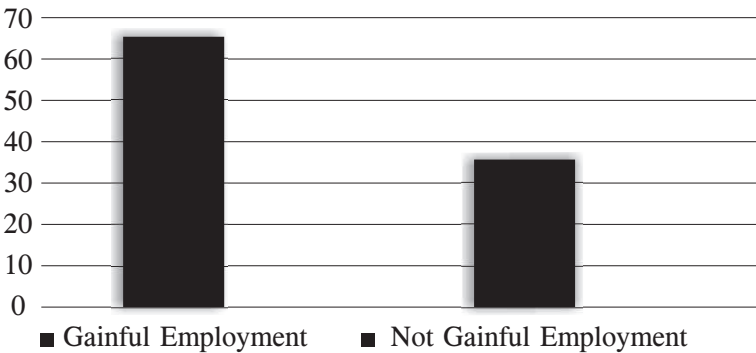


Figure 4: Representing number of participants Gainfully and Not -Gainfully employed among higher rank group.

Table 9: Application of Chi-square on Middle rank group.

Gainful Employment	Not Gainful Employment	Total	χ^2
45	55	100	1.0 Not Significant
50	50	100	

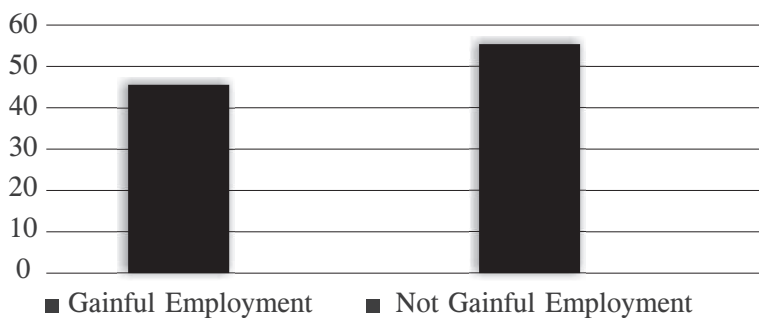


Figure 5: Representing number of participants Gainfully and Not- Gainfully employed among middle rank group.

Table 10: Application of Chi-square on Lower rank group.

Gainful Employment	Not Gainful Employment	Total	χ^2
43	57	100	1.96 Not Significant
50	50	100	

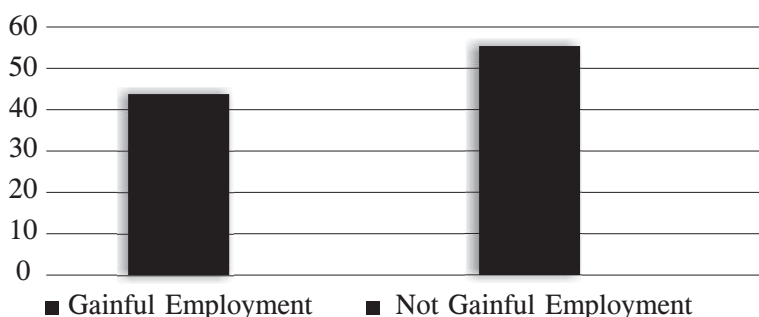


Figure 6: Representing number of participants Gainfully and Not-Gainfully employed among lower rank group.

From the above-mentioned tables on application of chi-square on all the three groups separately, it is clear that the higher rank police personnel are gainfully employed as their current job fits well with their value system. They receive all the facilities such as safe working environment, higher pay, decision making power as well as involvement in taking decisions. They are highly satisfied with their work as well as work environment. Hence, they are gainfully employed.

On the other hand, Lower rank police personnel are not gainfully employed as they have to work round the clock following orders from higher authority. They are expected to be available at all times and are required to be prompt in their responses. Constables and head constables are the foot-soldiers of police as they have to work in emergency situations and various other law and order duties with calmness and sensitivity. They are at high risk of being exposed to psychologically straining situations and potentially psycho traumatic experiences. Sometimes they

work under pressure and are stressed. Hence, less safety and more responsibility in the job makes them less interested in their workplace environment. Stephen, Julian and Warren (1990) observed that impatience and irritability is negatively associated with job satisfaction.

Mc Donough, Amick, Chang, Rogers, Duncan and Pieper (2002) stated that, “lack of job control to meet the demand of the job lead to continuous strain and stress. The study also indicates that working in low control jobs is correlated to 43% increased chances of death”.

Demerouti, Bakker, Nachreiner and Schaufeli (2001) observed that job and personal resources interact with job demands and predict work engagement and lead to performance. One more study by Guido Alessandri, Laura Borgogni and Gary P. Latham (2016) also observed job performance as a major provider of an individual’s satisfaction with his work. Satisfied worker demonstrates higher job performance than unsatisfied workers. So, it is clear that higher rank police personnel are significantly different on gainful employment. It is evident from the above results that healthy workplace environment encourages job satisfaction with less absenteeism.

Conclusion

The present study found a significant difference among the higher and lower rank police personnel. The results got in the investigation depicts that higher rank police personnel are gainfully employed and have more resources as compared to middle and lower rank police personnel. Higher rank police personnel are facilitated by decision making powers, higher pay and much involvement in decision making. They are less stressed and enjoy higher level of autonomy which impacts positively on job satisfaction.



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