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Maniac Management System

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Abstract: Criminal psychology has always been a topic that has come into immense roar these days because of the increase in crimes all around the globe, it is impossible to make out who is iniquitous in today's time, a person sitting next to you in a local transport can be as dangerous to you as a murderer/rapist sitting inside a jail, hence the aim of this work is to find out the mechanics inside a criminals mind before and after committing a crime so that we can curb the number of criminals around the world by understanding their workings.
Keywords: Criminal Psychology, criminology, Data Set, data analysis

I. INTRODUCTION

Criminal psychology is the study of thoughts, intentions, actions, or reactions of a criminal to analyses and derive a pattern that would help police or other related agencies to apprehend criminals or help a court during proceedings. It answers the question: Why do criminal do what they do?

The person who practices in the field of criminal psychology is called a criminal psychologist. Criminal Psychologist deal with criminal profiling, consultation, assessment, court testimony, psychotherapy, teaching. Criminal profiling is a process of linking the actions of an offender to the crime scene to explore characteristics of similar kinds of offenders so that it becomes easy for police or other related agencies to apprehend similar kinds of offenders by just examining the crime scene. The goal of criminal behavior analysis is to provide insight into the offender's minds et, enabling law enforcement to develop a profile of the individual and improve their chances of apprehending them Criminal behavior analysis is a complex process that involves a range of disciplines, including psychology, criminology, and sociology. It requires a deep understanding of human behavior, including the factors that can contribute to criminal activity such as social, environmental, and psychological factors.

Overall, criminal behavior analysis is an important tool in the fight against crime, helping law enforcement to better understand and predict criminal behavior, and ultimately, to bring perpetrators to justice.

II. LITERATURE SURVEY

Cattel et al.[1] In order to understand eyewitness testimony, Cattell in his experiments asked subjects to recall and describe things that they witnessed in everyday life. The results indicate that, most of the subjects were not able to correctly recall the events and specific things which they had experienced or had seen during the earlier day.

Binet et al.[2] His aimed to understand the role of suggestibility. In this a series of objects were presented to children for a short duration of time, after viewing the objects, children were instructed to write about everything they saw. Another group of children, who were also shown the same objects were, on the other hand were questioned about the objects they saw. Some of the questions asked were closed ended and direct. While, some questions were mildly misleading, and some others were highly misleading. The results indicate, children when asked to write everything they saw which is free recall without any questions resulted in the most accurate answer. While highly misleading questions resulted in least accurate answers. The results show that testimony provided by children is highly susceptible to suggestive questioning techniques.

William Stern et al.[3] He also during the same era conducted experiments to examine suggestibility of witnesses. Contribution of the famous "Reality Experiment" which is used till date to study eyewitness recall and recognition by the researchers is attributed to Stern. In application of this paradigm, subjects are made to witness staged events and then are asked to recall the information that they remember about the staged events. This is conducted in the form of a free recall. During these experiments Stern found that many factors affect eyewitnesses testimony. One of such factors explained by him is emotional arousal of the observer.

Schrenck-Notzing et al.[4] explained the concept of "Retroactive memory Falsification" as a process where information presented by the media and other sources interferes with the actual memory of events of the witness. He provided scientific evidence for his testimony by conducting a laboratory research on the same.

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Vanessa et al.[5] this article sorted into categories by the actor or action in the criminal investigation and prosecution process that they addressed, including physical evidence collection, witness evaluation, suspect evaluation, forensic analysis and testimony, police case evaluation (i.e., integrating and drawing conclusions based on the totality of the evidence), prosecutors, defense attorneys, judges, juries, and sentencing. Within each of these categories, we further sorted the articles into one of three types of sources: "primary data studies" describing experimental or observational studies that involved data collection or analysis, "intervention studies" that were solution-oriented and involved implementing some type of intervention or training to prevent or mitigate a phenomenon, and "secondary sources" (e.g., commentaries, letters, reviews, theoretical pieces, general book chapters) that discussed cognitive biases but did not present primary data.

Anal Chem et al.[6] Scientists and experts are expected to make observations and draw impartial conclusions based on the relevant data. Therefore, we tend to focus on the data and methods used, as if they exist in isolation from the human decision maker. For example, a recent paper reviews forensic DNA analysis (1) and provides a thorough review of the DNA methods, but does not give sufficient note and attention to the fact that DNA analysis depends and hinges on the humans conducting it, and how their biases may impact the DNA results. Indeed, a flurry of recent publications demonstrate the importance and influence of the human impact on DNA analysis. (2−4)

Such cognitive biases are not limited to DNA analysis, and have been demonstrated in many domains (e.g., fingerprinting and other forensic science disciplines, (5,6) forensic psychology,(7) as well as drug detection and discovery (8)). Biases can impact the actual observation and perception of the data, testing strategies, as well as how the results are then interpreted and how conclusions are reached. (6) Even one of the most objective domains, toxicology, has now been shown to be exposed to issues of cognitive bias, (9) and such biases have created error in real toxicology casework (e.g., determining a wrong testing strategy in a post-mortem toxicology case (10)).

Shannon Deblasio et al.[7] Seventy-three adult male offenders, convicted for acquisitive or sexual crimes, from a Category B prison within the Northwest of England completed questionnaires measuring their criminal backgrounds, psychopathy traits (Tri-PM; Patrick, 2010) and criminal thinking styles (Psychology Inventory of Criminal Thinking Styles; Walters, 2001).

Sydney Baker et al.[8] Childhood family SES was based on information collected during the interview and neighborhood SES were based on census tract information from childhood. Psychopathic trait scores were based on information from interviews and case records. Official arrest data were used to assess criminal behavior in adulthood.

Robert D. Hare et al.[9] They determined the psychometric properties of the PCL-R form the samples, performed structural equation modeling (SEM) to investigate the factor structure of the PCL-R, and conducted a latent profile analysis (LPA) of the obtained factors to identify classes or subtypes within the samples.

Laura Amy Jackson et al.[10] Twelve interviews were conducted with young men with convictions aged between 18 and 25 years who had almost completed a rehabilitation process within the community. Narrative analysis was used to analyze the data. All were engaging with the rehabilitation service as a result of conviction for low to medium level offences, including burglary, harm of another person and drug related offences.

K. Jones et al.[11] A scoping review methodology has been used and the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines are used to report our findings . Compared to a systematic review involves: identifying the research question; identifying relevant studies; selecting studies; charting the data; collating, summarizing, and reporting the results which seeks to address a specific question we used a scoping review as an approach to synthesize the evidence from included studies.

Hannah Parker et al.[12] This study explored the prevalence of health anxiety in ambulatory presentations in a tertiary emergency department (ED) as well as the factors associated with pain and health anxiety in this setting. A cross-sectional questionnaire design was used to gather data from adult ED ambulatory attendees across a 4-day sampling period to assess psychological and physical health variables. Number of attendances to ED over the previous 12 months was accessed through healthcare records.

Michael William Flores et al.[13] They conducted a retrospective analysis of multiple cross- sections of data from the National Survey on Drug Use and Health (2015–2019) and used multivariable linear probability regression models to assess lifetime CLI and past-year probation, parole, supervised release, or other conditional release in a nationally representative sample of noninstitutionalized U.S. adults, ages ≥18 years (N=214,505), with and without serious psychological distress.

Lyndel Bates et al.[14] Arksey and O'Malley's (2005) five-step process for scoping reviews to identify, summarise and classify identified literature was used. Within the 30-year timeframe (1990–2019), 12 studies met to explore the link between dangerous driving and other criminal behaviour.

H.P. Carven et al.[15] The first element of the study (the online quantitative survey element) comprised of an online questionnaire of 7 psychometric scales. The second element involved 9 in-depth interviews with CSIs (the qualitative element).

The two elements ran concurrently (Tashakkori et al. 2020), one did not inform the other. The interview sample was separate to the survey sample to add methodological rigour (Regnault et al. 2018), with both strands havingclear aims within the overarching project. A critical realism stance was adopted; a philosophical approach that is compatible with both methods (Maxwell and Mittapalli 2010). Ethical clearance was gained for both the online and interview elements of the study via the relevant University ethics sub-panel (Human Sciences). Data clearance was obtained for CSIs from theregional Chief Commissioner.

Lillis Rabbing et al.[16] Research into stress among police is characterised by a plethora of definitions, measurements, and methods. A scoping review approach allows openness to stressas a concept and to study designs (Tricco et al. 2018). As our aim is to map and summarise existing measurements of stress among police, the criteria for choosing a scoping review approach were fulfilled.

Nishant kishanan et al.[17] Following PRISMA guidelines, publications that empirically examined risk factors contributing to suicide in police officers were identified (Moher et al. 2009). Four English language databases were considered: PsycInfo, PsycNet, PubMed, and Web of Science. Search terms were grounded in previous research and selected using the SPIDER search strategy protocol (Cooke et al. 2012). Consistent with the SPIDER protocol, the following was achieved: (1) identification of the relevant sample, phenomenon of interest, design, evaluation, and research type; (2) key terms highlighted; and (3) alternative phrases generated, to develop a coherent search strategy. The research team then reviewed the appropriateness of the search strategy and identified potential further terms. Final search termsincluded officer*, suicide, and factor*.

Wania C. de Souza et al[18] The study included two phases. In Phase 1, two focus groups wereconducted to generate items for the construction of a measure for risk perception and security attitude. After collection, these data were analyzed with a content analysis software and 20 items were generated. In Phase 2 new data were collected with police officers and civilians using the risk perception measure generated in Phase 1, along with the values scale. Data fromthis phase were then used to test the hypotheses proposed. Methodological details about each phase are presented as follows.

III. EXISTING SYSTEM GAP

1) Limited data sources: Many criminal behavior software applications rely on little data sources, such as police reports or criminal records, which can be biased or incomplete. This can lead too inaccurate or incomplete analysis of criminal behaviour patterns.
2) Lack of integration: many criminal behaviour software applications are not integrated with other law enforcement system, such as those for facial recognition orlicense plate recognition. This limits their effectiveness in identifying and tracking criminals.
3) Inability to predict future behavior: While some criminal behavior software applications can analyses past behavior pattern, they may not be able to accurately predict future behavior. This is a crucial gap in preventing crime before it happens.
4) Limited user training: Criminal behaviour software application require skills userswho are trained in data analysis, statistics, and criminal behaviours patterns
5) Privacy concerns: The use of criminal behavior software application raises privacy concerns, particularly when they rely o surveillance data or personal information. Itis important to ensure that the use of these application does not violate individuals' privacy right or lead to unjustified discrimination.

IV. OBJECTIVE

The objective of Maniac Management System to study the criminal psychology and behaviourto better understand the factors and motivation that drive individuals to engage in criminal activity. By understanding the root causes of criminal behaviour, we will be preventing the crime, developing intervention and programs to prevent criminal behaviour, improving the accuracy of criminal profiling and risk assessment, and supporting the rehabilitation ofoffenders.

V. MATERIAL AND METHODS

Analyzing criminal behavior requires a multidisciplinary approach that draws on various fields such as psychology, sociology, criminology, and forensic science.

There are several materials and methods commonly used in the analysis of criminal behavior such as case studies, surveys and questionnaires, psychological assessments, statistical analysisetc.

In our project, we used surveys and questionnaires for developing our application to predict the criminal behaviour.

VI. ABOUT DATASET

For this project, to determine the mentality and behaviour of a criminal, we made own their dataset through the survey.

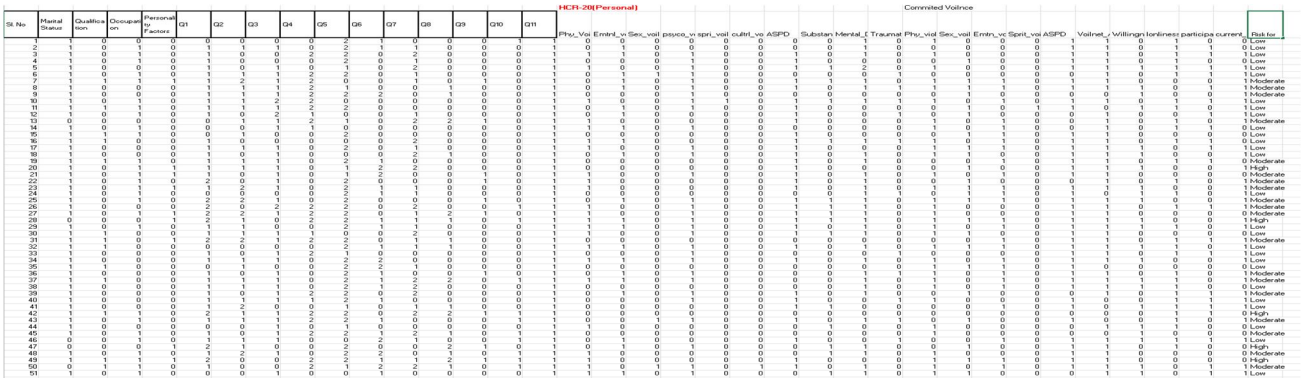
Our dataset based on the questioner that contain question that asked to different age of people to determine the perspective of the people.

We made own dataset based on some aspect that medical health, upbringing, mental health, effect of other person company or past experiences of a person.

There are the question which is contain in our dataset:

1) How is your relation with your parents?
2) How is your relation with your relatives?
3) What type of personality you have?
4) How do you feel when you see a police officer?
5) Do you enjoy television shows about crime?
6) How do fell when crime is committed in front of you
7) Do you have any traumatic experience in the past life?
8) Have you ever faced anxiety, depression, or other mood disorders?
9) Do you feel hallucination?
10) Have you ever thoughts of suicide or self-harm?
11) Does anybody abuse you in your childhood?

VII. SNAPSHOT OF DATASET



VIII. REQUIREMENT OF TOOLS

A. Tools

1) Android Studio.
2) SQLite.
3) 512 GB Hard disk.
4) 8 GB RAM.
5) Internet Connection.

B. Languages

1) HTML
2) CSS
3) Java
4) Kotlin
5) Python
6) SQLite Database

IX. PROCEDURE TO DEVELOP THE APPLICATION

Developing an application in Android Studio to predict criminal behavior involves creating a predictive model based on relevant data. Here are procedure to follow:

1) Define the Scope: The objective of our application to determine the mentality and behavior of criminal for preventing the in future crime and decrease the rate of crimethrough predicting the criminal behavior.
2) Data Collection: In our work, we make own dataset that based on the questioner and we survey through questioner and collect the data by the help of survey.
3) Data Preprocessing: We clean and preprocess the collected data to ensure its quality and suitability for analysis. This may involve tasks such as removing duplicates, handling missing values, standardizing data formats, and transforming variables as needed.
4) Feature Engineering: Identify and extract relevant features from the collected data. This step involves selecting the variables that are most likely to influence criminal behavior and transforming them into suitable representations for modeling. Feature engineering may involve techniques such as dimensionality reduction, normalization, or creating new derived features.
5) Model Selection: We will use some predictive modeling technique based on the natureof the problem and the available dataset. There are common techniques for predicting criminal behavior include logistic regression, decision trees, random forests, neural networks that we used in our application.
6) Model Training: Split the preprocessed data into training and testing sets. Use the training set to train the predictive model using the chosen technique. Adjust the model'sparameters and hyperparameters as needed to optimize its performance.
7) User Interface Design: We will design a user-friendly interface for our Android application.
8) In our application, firstly we made login or registration page then after login page we made a series of questioner and use the visualization for predicting the criminal behavior.
9) Model Evaluation: Evaluate the trained model using the testing set to assess its accuracy, precision, recall, and other relevant metrics. Validate the model'sperformance and determine if further adjustments or improvements are necessary.
10) Deployment: In this we integrate the all the modules into an Android application usingAndroid Studio and the application will generate predictions or risk scores for criminalbehavior based on the model's outputs.
11) Testing and Validation: Conduct thorough testing of the application to ensure its functionality, usability, and accuracy. Validate the application's predictions against real-world scenarios or existing data to assess its reliability and effectiveness.

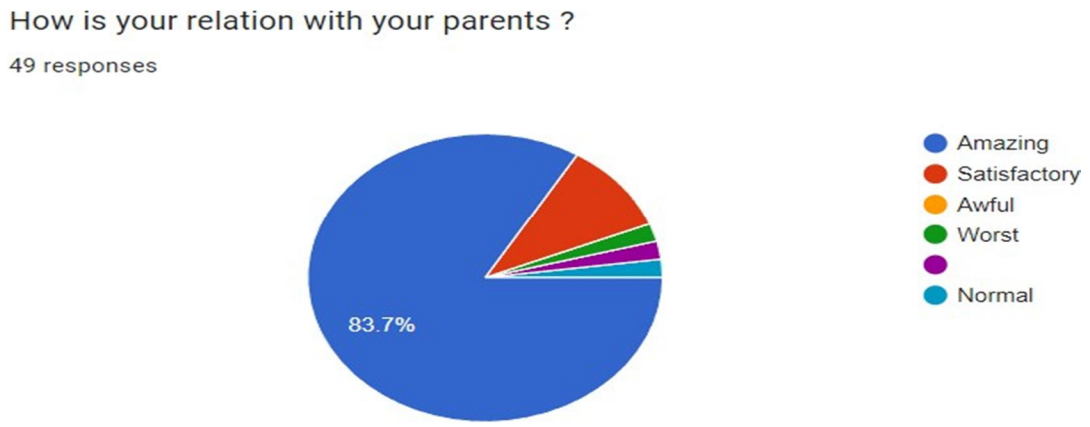
X. EXPECTED RESULT

Survey-based research is one of the commonly used methods in criminal psychology and behavior studies to understand the underlying psychological, social, and environmental factors that influence criminal behavior. Through surveys, researchers can collect data from many participants and analyze the patterns and trends in criminal behavior across different populations.

Survey-based research in criminal psychology and behavior is that it provides researchers witha non-invasive way of collecting data on sensitive topics such as criminal behavior, which can be difficult to collect using other research methods. By using surveys, participants can respondto questions in a more anonymous and confidential manner, which can result in more accurateand honest answers.

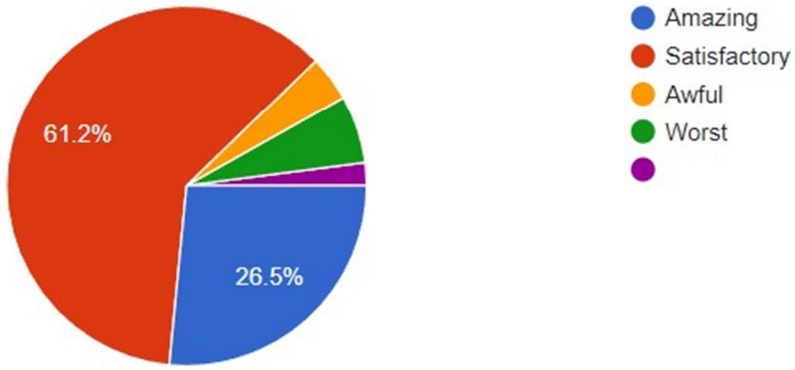
Surveys can be used to explore a range of topics related to criminal behavior, such as the prevalence of criminal behavior, the motivations and attitudes of criminals, and the impact ofsocial and environmental factors on criminal behavior. Researchers can also use surveys to evaluate the effectiveness of various interventions and treatment programs.

There are some outcomes of our questioner-based survey:



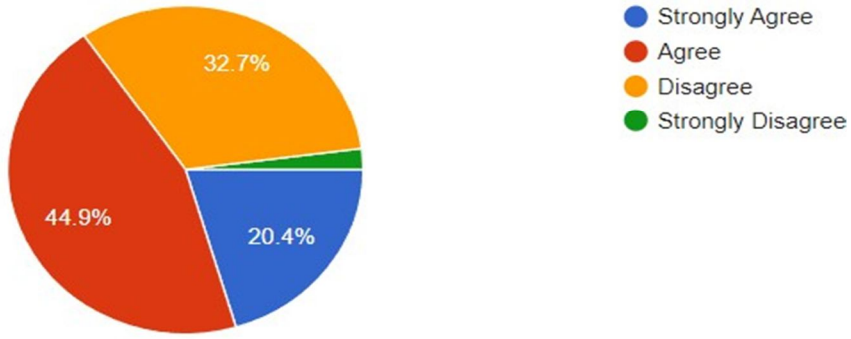
How is your relation with your relatives ?

49 responses



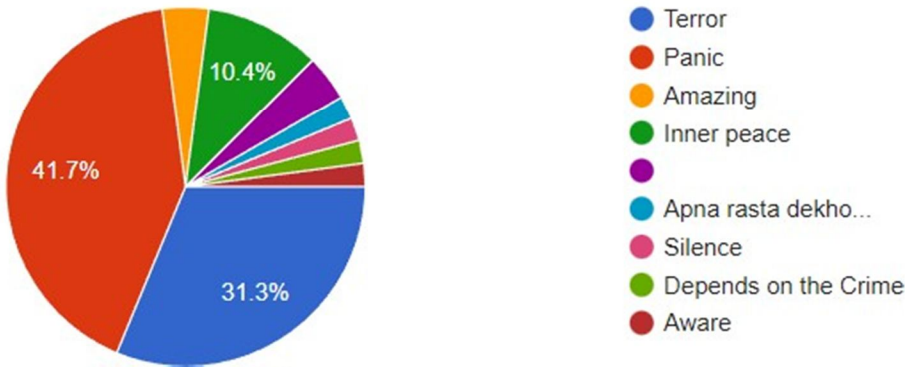
Do you enjoy television shows about crime?

49 responses

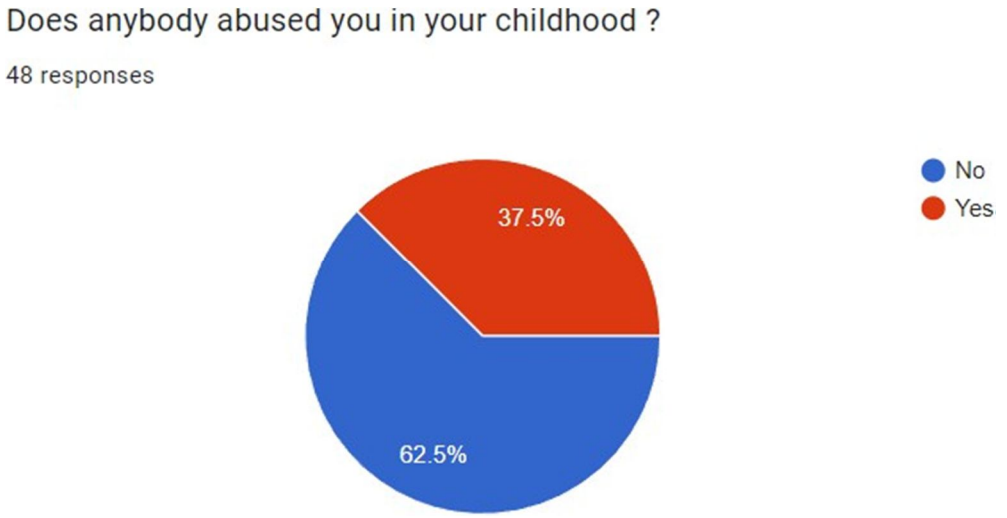


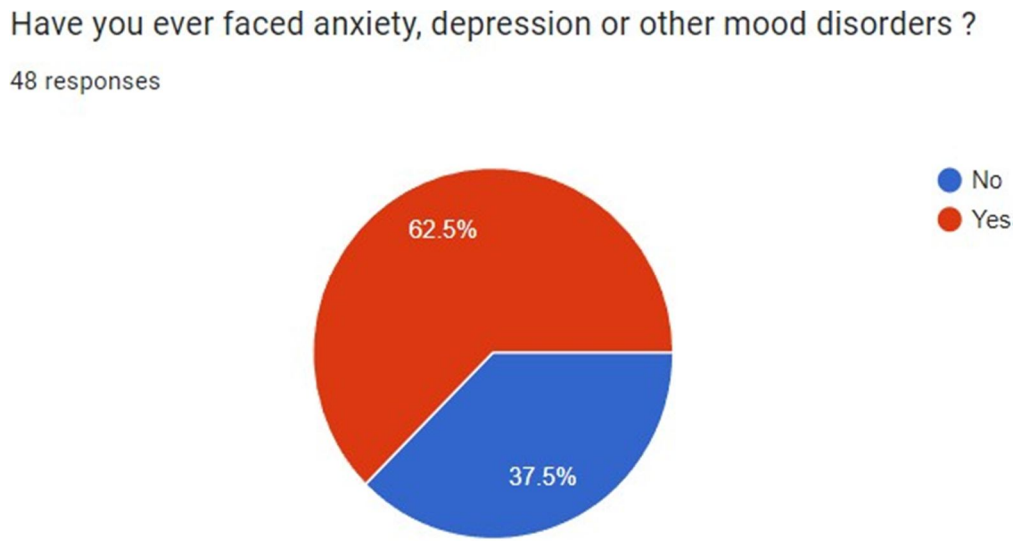
How do fell when crime is committed in front of you?

48 responses



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There are some pie charts that show the result of our questioner that show how the people reactand answer of our questions and using visualization we will predict the criminal mentality of aperson and this application help in crime analytics or criminal profiling by which we will identify the crime pattern, it will help identify areas where crimes are likely occur and predict potential criminal activity before it happens, improved investigation, reduced the crime rate and increased the public safety.

XI. CONCLUSION

Criminal behavior software applications, also known as predictive policing software, use algorithms and data analysis to forecast where crimes are likely to occur and who is likely to commit them. These applications are based on historical crime data and often use artificial intelligence and machine learning to analyze the data and make predictions. Some people arguethat these applications can help law enforcement agencies to allocate their resources more efficiently and prevent crimes from occurring. However, others raise concerns about the potential for bias and discrimination in the data used to train the algorithms and the impact of these applications on civil liberties. Critics argue that predictive policing may perpetuate racialand socioeconomic disparities in policing and result in over- policing of certain communities. Additionally, some argue that these applications may not be effective at preventing crimes, asthey are based on historical data and may not consider social and economic factors that influence crime. In conclusion, while criminal behavior software applications may have some potential benefits, they also raise significant concerns about bias, discrimination, and civil liberties. Further research is needed to understand the impact of these applications on communities and to develop safeguards to prevent discriminatory outcomes.

In conclusion, criminal behavior is a complex and multifaceted phenomenon that has important implications for a range of fields, including law enforcement, criminology, psychology, sociology, and public policy. Survey-based research is a commonly used method in the study

of criminal behavior, as it allows researchers to collect data from many participants and identify patterns and trends in criminal behavior across different populations. However, survey-based research also has its limitations, and it should be used in conjunction with other research methods to provide a more comprehensive understanding of criminal behavior. The future scope of application of criminal behavior research is vast and varied, and it is likely to continueto grow and evolve over time, with potential applications in law enforcement, corrections, public policy, forensic psychology, cybersecurity, and international crime. By continuing to explore the underlying factors that contribute to criminal behavior, researchers can help inform policy and practice aimed at preventing crime and promoting public safety.

XII. FUTURE SCOPE

The study of criminal behavior has important implications for a range of fields, including law enforcement, criminology, psychology, sociology, and public policy. The future scope of application of criminal behavior research is vast and varied, and it is likely to continue to growand evolve over time. Here are some potential areas where criminal behavior research could beapplied in the future:

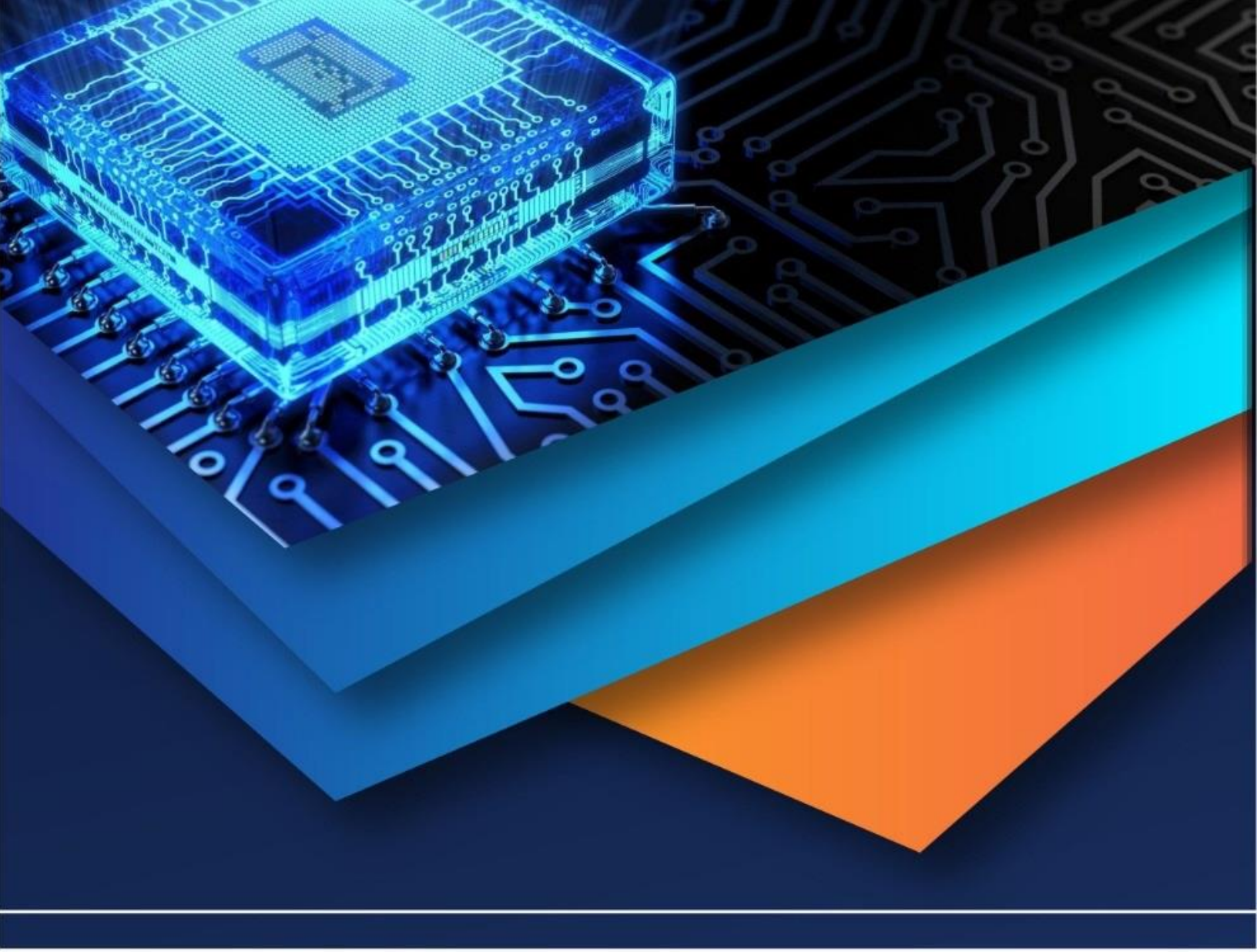
1) Law enforcement: Criminal behavior research can be used to inform law enforcement policies and practices, including the development of effective crime prevention strategies and the identification of risk factors for criminal behavior.
2) Corrections: Criminal behavior research can be applied in correctional settings to develop evidence-based treatment and rehabilitation programs that help reducerecidivism and promote successful re-entry into society.
3) Public policy: Research on criminal behavior can inform public policy decisions related to crime prevention, victim services, and criminal justice reform.
4) Forensic psychology: The study of criminal behavior is also relevant in the field offorensic psychology, where researchers may investigate the psychological factors that contribute to criminal behavior, such as personality traits or mental illness.
5) Cybersecurity: As more criminal activity occurs online, there is a growing need forresearch on the psychology of cybercriminals and the factors that motivate them to engage in cybercrime.
6) International crime: Criminal behavior research can also be applied in the context of international crime, including human trafficking, drug trafficking, and terrorism.

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