

Critical Evaluation of the Homology Assumption in Offender Profiling

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Abstract

This study aims to critically assess the homology assumption in offender profiling, which posits that offenders who display similar criminal behaviors tend to share similar psychological or socio-demographic traits. Even though offender profiling is commonly used in investigations, there are still exist debates. Previous research has shown a link between how offenders behave and their personal characteristics, but this still be questioned because of the way studies are conducted and how different situations can affect criminal behavior. These differences suggest that assuming that offenders with similar traits might oversimplify things, and it does not take into account how individual traits and their environment really work together. The paper suggests that future research should move past fixed ideas about traits and use more flexible methods, like big behavioral data or computer models, to make predictions better and help with understanding more effectively.

Keywords

homology assumption, offender profiling, distance decay, situational influences, behavioral variability

1. Introduction

The offender profiling plays a critical role in crime investigations that can help law enforcement agencies to narrow down the list of possible suspects and making the case detection more efficiently. Homology assumption is one of the most significant theoretical basis of the offender profiling, which is means that offenders with the similar criminal behaviour patterns have the similar personality or background characteristics (Chifflet, 2015). However, this assumption does not fully support because its scientific validity has been controversial. For example, existing study has limited evidence to support the homology assumption, most of them focus on the specific crime types (e.g. Sexual crime, robbery), and have not fully assess its applicability. Besides, most of research based on small samples or single crime type, and there is a lack of large-scale, cross-crime categories systematic verification (Canter & Alison, 1999). Give this perspective, the offender profiling will become more precise if the homology assumption is true; if not, new criminal behaviour analysis approaches need to be developed, in order to reduce the bias in suspect screening. Accordingly, this essay aims to address whether homology assumption could be used for offender profiling through evaluating the empirical evidences.

2. Theoretical Framework

Offender profiling is based on different theories from criminology and psychology that try to explain how a person's characteristics relate to their criminal actions. A major idea in profiling is behavioral consistency

theory, which suggests that offenders show similar behavior patterns in different crimes. This theory suggests individual's thinking and personality influence criminal behavior. It links to the homology assumption, highlighting that people who commit crimes might share similar traits. Yet, some studies show that this is not always true, because people who do similar crimes can be very different in how they act (Alison et al., 2002).

Moreover, the offender profiling offender profiling also consider individuals' traits that connects to criminal behavior (Eysenck, 1996). This idea suggests personality features might be connected to some crimes. For example, impulsive people may tend to commit crimes, while people with psychopathic traits take actions carefully. Other researchers consider contextual influence and peer relationship play a role in causing criminal behavior than personality traits. This shows the critical to understand the personality and contextual influence in considering criminal behavior.

Another important theoretical approach is criminal typology, which categorizes offenders based on their behavior, psychological characteristics, and social and demographic factors (Turvey, 2011). Typological models classify offenders into distinct subgroups, such as organized versus disorganized criminals, using clues from crime scenes (Canter et al., 2004). Organized criminals usually plan their crimes carefully, work in groups, and without leaving much evidence. Even though these groups help heuristics for profiling, they have been questioned because they may not capture the whole picture of criminal behavior. Offenders may not fit perfectly into these categories, and their behavior can change over time, challenging the static nature of typological classifications.

Based on the above mentioned theoretical perspectives, the validity of the homology assumption still exist a question. If homology holds, then it could make offender profiling a more reliable tool for investigation. However, empirical research reported that homology is not always appropriate, as offenders act with similar ways can be very different in their psychological and demographic traits. This limitation reflected the importance to prepare alternative approaches, such as case linkage analysis, geographical profiling, and dynamic risk assessment, which focus on linking crimes based on spatial patterns, temporal factors, or evolving risk factors instead of only focusing on the static offender characteristics.

Case linkage analysis looks at how different crimes are similar to see if they might have been done by the same offender. This method is based on the idea that people often behave in similar ways, but it also looks at other factors like how crimes are committed and any special behaviors the offender might show. Geographical profiling based on locations to find out where the offender might live or work. This approach is effective in some cases.

Offender profiling raises important ethical issues that need careful attention. It results in unfair opinions about people suspected of crimes, especially based on stereotypes. For instance, people might make incorrect assumptions about one's behavior and leads to mistakes. To reduce this, profiling should be done in a fair and open way, following clear ethical guidelines.

In conclusion, offender profiling is a complicated process that involves looking at how people behave, commonalities between different crimes, personal characteristics, and the types of criminals involved. Even though it can be useful, there are some limits to what it can do, so it's important to understand those limits and use real evidence. By mixing ideas from theory with real-world use, profiling can keep improving as a way to help find justice. However, it is important to use it in a way that is fair, accurate, and responsible, so it can truly help in solving cases.

3. Empirical Evidence for the Homology Assumption in Offender Profiling

Prior empirical studies has already support for the homology assumption in offender profiling. Several studies have demonstrated the practical utility of this assumption in linking criminal behaviour to offender traits. Evidences show that the homology assumption could be used on geographic profiling. Geographic profiling is one of the offender profiling which is predict the most probable area of offender residence based on the known location of crimes (Rossmo, 2005). Curtis-Ham et al. (2021) utilized data from 60,229 offenders provided by the New Zealand Police to investigate the relationship between criminal behaviour and activity spaces, the research demonstrated the positive correlation between the location of crime and the activity space of the urban burglary offender, indicating that offenders with similar behavioural patterns often share

comparable socioeconomic characteristics. This finding directly supports the homology assumption by demonstrating that behavioral consistency can be linked to underlying offender traits.

Building on the evidence supporting the homology assumption in contextual profiling, the journey-to-crime theory illustrates that offenders' criminal behavior is often shaped by proximity to their residence. In line with the distance decay model, this theory suggests that the likelihood of committing a crime decreases as the distance from an offender's home increases. Empirical research has shown that most criminal activities, particularly non-fatal violence, tend to occur near the offender's or victim's home (Block et al., 2007; Rossmo, 2024). These spatial patterns not only highlight offenders' preference for familiar environments but also provide valuable insights for offender profiling, as they can be used to predict the possible area of residence of offenders. Overall, such findings reinforce the view that offenders' behavioral patterns are influenced by geographical and social contexts, thereby lending further support to the homology assumption.

Recent geographic studies also reinforce the link between behavioral patterns and offender characteristics. For instance, concentrated activity spaces and shorter distances between activity nodes have been shown to strengthen the correspondence between behavior and background traits (Curtis-Ham et al., 2021). From this perspective, the homology assumption gains empirical support, suggesting that offender profiling can, to some extent, utilize the alignment between crime scene behavior and offender characteristics. Nevertheless, the assumption remains contested. Tonkin et al. (2017) critically examined behavioral case linkages in both solved and unsolved crimes and found that offenders who displayed similar crime scene behaviors did not necessarily share common background characteristics. This finding challenges the main idea of the homology assumption by showing that similar behavior doesn't always mean the same things about the offender. Similarly, Goodwill and Alison (2007) looked at how the age of the offender and the victim are connected in stranger rape cases, and they considered factors like how much the crime was planned and how aggressive the offender was. Their results showed that looking only at behavior isn't enough to understand someone properly, because the offender's characteristics depend a lot on the situation, like how much they planned or how aggressive they were. Overall, these studies show that the homology assumption has a big problem: an offender's actions are shaped by many factors, like the situation they are in, their mental state, and the environment around them, not just by fixed personal traits. This means that profiling methods that rely too much on consistent behavior might not be reliable. It shows the need for more adaptable and well-supported ways to approach profiling.

4. Discussion

The homology assumption has considerable value in offender profiling as it helps figuring out who a criminal might be, which gives a clear way to look at how people act and connect that to their personality or background. When offenders commits crimes in a similar way, those actions can show important clues about who they are. These traits can help the related stakeholders narrow down who could be the suspect, use their resources better, and spot patterns in repeated crimes. Basically, This method shows that criminals do not just act on impulse, but are shaped by their personal lives and the world around them, which can be very helpful in solving cases when used correctly.

However, the idea that behavior can be used to judge someone's character is questioned because human actions are complex. Crimes aren't just about someone's fixed personality, but also depend on the situation, environment, and context. People may act differently in different situations, making it hard to use behavior as a reliable way to understand someone's traits. Also, even if two people act the same way at a crime scene, they might have very different backgrounds or mental qualities, showing that looking only at behavior can be too simple and unfair. Plus, behavior can change over time as offenders adjust their actions or respond to new pressures, which makes it even more difficult to rely on consistent patterns.

Taken together, above discussion reflect that even though assuming homology can make the investigation process faster when offenders have clear and recognizable behaviors, this assumption should not be considered a sure thing. Good profiling should combine homology with other methods that are backed by solid evidence. These methods need to consider changing situations, different contexts, and the possibility that offenders might change their behavior over time.

5. Future Research Directions

To handle these challenges, future research should focus on factors that change depending on the situation when building profiling models, not only on consistent behaviors. Using better tools like machine learning and big data can help make profiling more effective by finding patterns in a lot of information, while also considering how behavior might change. Creating models that combine steady behavior with other factors like location, mental state, and surroundings could make offender profiling more accurate. Also, looking at outside influences such as financial and social context can give a better understanding of offenders..

6. Conclusion

The critical analysis of the homology assumption in offender profiling shows both strengths and weaknesses. Some research suggests that people who commit crimes in similar ways might have similar characteristics, but this is not always true because contextual factors can influence behavior. Tools like geographic profiling can help understand crime patterns, but they do not always correctly predict the traits all the time. Because of these limits, future research should take into account factors like the situation, psychological factors, and the context of the crimes when creating profiling models. By using data and working with different areas of study, law enforcement can make offender profiling more accurate and reliable, and also help reduce unfair biases in investigations.

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Conflicts of Interest

The authors declare no conflict of interest.

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