



## Retraction Notice

Title of retracted article: **Investigating Predictive Factors of Psychopathy –Socioeconomic Status and Index Offence of Offenders**

Author(s): Anna Cornelia Stausberg

\*Corresponding author's Email: corneliastausberg@icloud.com

Journal: Open Access Library Journal (OALib Journal)  
Year: 2024  
Volume: 11  
Number: 4  
Pages (from - to): 1-20  
DOI (to PDF): <https://doi.org/10.4236/oalib.1111268>  
Paper ID at SCIRP: 132312  
Article page: <https://www.scirp.org/journal/paperinformation.aspx?paperid=132312>

Retraction date: 2024-04-12

### Retraction initiative (multiple responses allowed; mark with X):

- All authors
- Some of the authors:
- Editor with hints from
- Journal owner (publisher)
- Institution:
- Reader:
- Other:

Date initiative is launched: 2024-04-12

### Retraction type (multiple responses allowed):

- Unreliable findings
- Lab error  Inconsistent data  Analytical error  Biased interpretation
- Other:
- Irreproducible results
- Failure to disclose a major competing interest likely to influence interpretations or recommendations
- Unethical research
- Fraud
- Data fabrication  Fake publication  Other:
- Plagiarism  Self plagiarism  Overlap  Redundant publication \*
- Copyright infringement  Other legal concern:
- Editorial reasons
- Handling error  Unreliable review(s)  Decision error  Other:

Other: Authors requested withdrawal.

### Author's conduct (only one response allowed):

- honest error
- academic misconduct
- none (not applicable in this case – e.g. in case of editorial reasons)

\* Also called duplicate or repetitive publication. Definition: "Publishing or attempting to publish substantially the same work more than once."

### Comment:

The Editorial Board would like to extend its sincere apologies for any inconvenience this retraction may have caused.



# Investigating Predictive Factors of Psychopathy —Socioeconomic Status and Index Offence of Offenders

Anna Cornelia Stausberg

Wolfson Institute of Population Health—Centre for Psychiatry and Mental Health, Faculty of Medicine and Dentistry, Queen Mary University of London, London, UK  
Email: corneliastausberg@icloud.com

**How to cite this paper:** Stausberg, A.C. (2024) Investigating Predictive Factors of Psychopathy —Socioeconomic Status and Index Offence of Offenders. *Open Access Library Journal*, 11: e11268.  
<http://doi.org/10.4236/oalib.1111268>

**Received:** January 29, 2024

**Accepted:** April 4, 2024

**Published:** April 7, 2024

Copyright © 2024 by author(s) and Open Access Library Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

This study explores the relationship between PCL-R scores, specific offence types, and socioeconomic status (SES). The findings contribute to a comprehensive understanding of psychopathy's psychometric properties and provide valuable insight for guiding forensic interventions. The significant result indicates a strong association between criminal behaviour and psychometric traits of psychopathy. Offenders with “Other Serious” index offences demonstrated significantly higher PCL-R scores than those with “Other Major” and “Serious Violence” offences. This study identifies potential mechanisms driving this correlation, including emotional detachment, impulsivity, risk-taking behaviour, sensation-seeking tendencies, and manipulative skills associated with psychopathy. However, the study found no statistically significant relationship between SES and PCL-R scores among offenders. Prior research discrepancies may be influenced by cultural and societal factors, the complexity of measuring SES, and their interaction with underlying personality traits. Despite limitations, such as the absence of longitudinal research design and potential biases, the study enhances knowledge on the interplay between psychopathic traits, offence classification, and SES. Overall, this study's insights are vital for informing tailored forensic interventions based on specific criminal tendencies associated with psychopathy. By understanding the multifaceted nature of psychopathy, practitioners can enhance rehabilitation effectiveness and reduce recidivism rates among offenders.

## Subject Areas

Forensics

---

## Keywords

Psychopathy, PCL-R, Socioeconomic Status, Criminal Behaviour

---

## 1. Introduction

This study actively examines the intricate relationship between psychopathic tendencies and criminal behaviour. The central inquiry revolves around whether specific types of offences (e.g., bodily harm or financial crime) can serve as predictors of psychopathy levels, as measured by the PCL-R. Additionally, the research investigates whether the socioeconomic status of offenders can be a predictive factor of psychopathic traits.

In a more detailed exploration, this study aims to unveil potential correlations and causal links between psychopathic tendencies and the perpetration of diverse crimes, this will be achieved through a comprehensive analysis of psychological profiles, behavioural patterns, and relevant case studies. The overarching goal is to provide valuable insight that contributes to a more informed and holistic understanding of the motivations underlying criminal actions. Furthermore, the research endeavours to inform evidence-based approaches aimed at reducing crime rates and enhancing the overall well-being of both individuals and society.

Overall, this research seeks to broaden the field of forensic psychology. Specifically, it aims to form an understanding of how traits and characteristics commonly associated with psychopathy may influence an individual's likelihood to engage in criminal activities.

### Psychopathy and crime

**Overview.** Psychopathy has long been a topic of fascination and speculation regarding its relationship with criminal behaviour [1]. While psychopathy is associated with an increased risk of engaging in criminal behaviour, not all individuals exhibiting psychopathic traits become criminals, nor are all criminals' psychopaths [1] [2]. It is a nuanced and multifaceted relationship that requires careful examination. Research has consistently shown that individuals with psychopathy exhibit distinct personality traits such as manipulation, callousness, and a lack of empathy. These traits, combined with an inclination towards impulsivity and antisocial behaviours, increase the likelihood of engaging in criminal acts. However, it is essential to recognise that psychopathy alone does not determine criminal behaviour. Other factors, such as environmental influences and personal circumstances, influence psychopathic traits to shape an individual's likelihood of criminal acts [3].

**This research.** The association between psychopathy and specific types of crimes varies [4] [5]. While psychopathy is thought to be linked to a higher risk of violent offenders, including acts of aggression and predatory behaviour, it does not necessarily imply involvement in all types of criminal activities. Individuals with psychopathy may also be involved in non-violent offences, such as

fraud or white-collar crimes, leveraging their manipulative tendencies to exploit others. Hence, this research aims to clarify the link between psychopathy and crime by providing insight into the violence levels of crimes committed.

Exploring the connection between psychopathy and types of criminal behaviour holds significant importance for several reasons. For instance, investigating the relationship between psychopathic tendencies and specific criminal behaviours can provide insights into the underlying motivations and thought processes driving criminal actions. This knowledge is essential for law enforcement, criminal justice professionals, and researchers to comprehend better the factors contributing to criminal activity.

In addition, research into the connection between psychopathy and criminal behaviour can influence policy and legal reforms. This information can help shape sentencing guidelines, parole decisions, and the development of alternative justice approaches that consider the psychological factors contributing to criminal actions. Conducting research on the connection between psychopathy and criminal behaviour contributes to advancing scientific knowledge in fields such as criminology, psychology, and neuroscience. This knowledge expands our theoretical understanding and lays the foundation for future research endeavours that can continue to refine our understanding of human behaviour and its implications for society. In society, a stigma is often attached to individuals with psychopathic traits, and they are sometimes incorrectly equated with extreme criminal behaviours. Research that clarifies the nuanced relationship between psychopathy and different types of criminal behaviour can help reduce misunderstanding, dispel myths, and foster a more balanced understanding of these complex psychological traits.

#### **Psychopathy and socioeconomic status.**

**Overview.** Socioeconomic status (SES) is a fundamental concept in sociology, economics, and public health that is pivotal in shaping individuals' lives and society [6]. It is a powerful determinant of a person's well-being, opportunities, and quality of life. SES encompasses a broad range of factors that relate to an individual's or a family's economic and social standing within society. SES is a multidimensional construct considering factors, including income, education level, occupation, and access to essential resources [7] [8] These elements work in tandem to establish an individual's position in the social hierarchy and influence their ability to participate fully in economic, educational, and societal activities.

**This research.** The second aim of this study is to determine and analyse the link between SES and psychopathy scores, as measured by the PCL-R. Hence, it is important to distinct the individual factors compromising SES and explore how these affect psychopathic traits. Furthermore, as the research will categorise SES into "low", "medium", and high it can be utilised to discover where the relationship lies, if a statistical significance is found.

**Relevance.** Researching the influence of socioeconomic status (SES) on psychopathy scores as measured by the Psychopathy Checklist-Revised (PCL-R) is

relevant for several compelling reasons. For instance, knowledge of how SES interacts with psychopathy can inform the design of interventions considering the unique challenges and needs of individuals from different socioeconomic backgrounds. This targeted approach could lead to more effective strategies for preventing or managing psychopathic behaviours.

One of the most prominent associations between SES and crime is the link with poverty [9] [10]. The relationship between socioeconomic status (SES) and crime has been the subject of extensive research and debate in the fields of criminology, sociology, and economics [11] [12]. While crime is a complex and multifaceted phenomenon influenced by numerous factors, evidence suggests that SES plays a significant role in shaping criminal behaviour and the patterns of illegal activity within a society. Hence, it is interesting to explore whether psychopathic traits combined with SES contribute to criminal behaviour. Individuals living in poor circumstances often face limited access to education, job opportunities, and essential resources. The frustration and desperation resulting from persistent poverty can drive some individuals to engage in criminal activities as a means of survival or to improve their quality of life. Property crimes, such as theft and burglary, are often more prevalent in impoverished areas, where the allure of material gain can be compelling. Furthermore, economic hardship associated with lower SES can lead to chronic stress, which in turn can affect brain development and emotional regulation. In addition, stress can contribute to impulsive and aggressive behaviours [13] which are traits often linked to psychopathy.

### **The Hare Psychopathy Checklist**

**Overview.** The Hare Psychopathy Checklist (PCL) was established in the 1970s by the Canadian psychologist Robert D. Hare. The PCL is a clinical rating scale consisting of 20 items. Each item is scored on a three-point scale and assesses various personality traits and behaviours associated with psychopathy, such as superficial charm, pathological lying, lack of remorse, and endorsing a parasitic lifestyle.

**Relevance.** This research focuses on psychopathy as classified by the PCL-R. High scores indicate higher psychopathic traits whilst low scores indicate low psychopathic traits. Hence, it is important to investigate what the PCL-R measures and how it is scored.

**Description.** The checklist is based on a two-factor model of psychopathy, which distinguishes between the interpersonal and affective features (Factor 1), and the impulse and antisocial behaviours (Factor 2). Factor 1, the “core” or “primary” factor, focuses on traits related to interpersonal manipulation, callousness, and a grandiose sense of self. These traits reflect a lack of empathy, shallow emotional affect, and a tendency to exploit others for personal gain. However, Factor 2, often called the “secondary” factor of psychopathy, encompasses impulsive and antisocial behaviours such as a history of criminal activity, impulsivity, poor behavioural control, and irresponsibility. Individuals scoring high on this factor often exhibit a more chaotic and unstable lifestyle, with a

greater propensity for violence and criminality.

The scores on the PCL range from 0 to 40, with a higher score indicating a higher degree of psychopathy. In clinical settings, a cut-off score of 25 or above indicates a diagnosis of psychopathy in the UK population. It is important to note that the PCL is primarily used by trained professionals, such as forensic psychologists or psychiatrists, and is not intended for self-diagnosis. Hence, any diagnosis not recorded by professionals will be disregarded for this research.

The revised version of the PCL (the PCL-R) was published in 1991 by Dr Hare [14] [15]. It aimed to address several limitations and enhance the reliability and validity of the assessment. A clarification of scoring criteria was introduced as the initial version has some ambiguity leading to inconsistencies in its application. The clarification provides clear guidelines and operational definitions for scoring each item, thereby improving the consistency and reliability of the assessment. This was also done by refining the item pool, revising scoring guidelines, and strengthening the psychometric properties of the instruments. Furthermore, new research findings and advancements in the understanding of psychopathy were incorporated. This included results on the construct of psychopathy incorporating clinical features, behavioural manifestations, and associated factors. Finally, the PCL-R aimed to enhance its applicability and usefulness across different settings, including forensic, clinical, and research contexts. It refined the assessment to provide a more robust tool for assessing psychopathy and its implications.

**Validity and reliability.** Cooke *et al.* (1999) [16] evaluated the screening version of the Hare Psychopathy Checklist—Revised (PCL: SV) utilising item response theory (IRT) analysis to conclude its effectiveness as a screening tool for psychopathy. IRT is a statistical technique utilised to examine the relationship between responses and underlying latent traits. Furthermore, by sampling 3628 male offenders from different correctional institutes, Cooke *et al.* (1999)'s research contributes effectively to the existing literature by providing empirical evidence supporting the psychometric properties of the PCL: SV. Furthermore, results indicate good reliability and validity by determining the items to be effective in discriminating between individuals with high and low levels of psychopathy. However, a significant limitation of the study is its generalisability, as it was conducted in 1999 using a specific and limited sample of male offenders.

DeMatteo *et al.* (2020) [17] evaluated and addressed the PCL-R in a capital sentencing setting in the US, as it is widely utilised to assess the risk of institutional violence. The authors expressed concerns regarding its applicability as the PCL-R was not designed or validated to determine the risk of violence within correctional institutions or to make predictions about an individual's future dangerousness. In addition, the authors contend that using the PCL-R in this context may have serious consequences, including the potential for misjudging an individual's level of risk and the potential for unfair treatment in capital sentencing. Several issues regarding using the PCL-R in capital sentencing were highlighted, such as concerns about reliability and validity, the lack of clear

guidance for interpretation, and the potential for bias and subjective judgement. Furthermore, the authors argue that these facts undermine capital sentencing procedures' scientific integrity and fairness.

Consequentially, a statement on the potential misuse and misinterpretation of the PCL-R in the context of capital sentencing was issued. This included a call for caution and re-evaluating the use of the PCL-R in capital sentencing, empathising with the need for evidence-based risk assessment tools and transparent, reliable, and valid procedures. However, a limitation of DeMatteo *et al.*'s (2020) study is the lack of empirical data and specific research findings to support their concerns. The article is presented as a statement by concerned experts but does not appear to present new empirical research or data to support their assertions. Furthermore, as the article focuses on a capital sentencing setting and the assessment of institutional violence, it limits the generalizability of the findings to other settings.

A counterstatement to DeMatteo *et al.* (2020) was published the same year (Olver *et al.*, 2020) [18]. The authors argue that DeMatteo *et al.*'s (2020) concerns were based on misinterpretations and methodological misunderstandings and highlighted the importance of differentiating between predictive accuracy and efficacy as the PCL-R is designed to provide information on risk factors rather than individual predictions. Furthermore, the authors highlight that the concerns failed to acknowledge and consider the substantial body of research supporting the reliability and validity of the PCL-R. They do so by addressing numerous studies and meta-analyses which have consistently demonstrated the utility of the PCL-R in predicting various forms of violence, including institutional violence. Furthermore, Olver *et al.* (2020) address methodological concerns such as the use of proxy measures for violence and the retrospective nature of the data. Overall, Olver *et al.* (2020) argue that the PCL-R is a reliable and valid tool when utilised appropriately and in conjunction with other assessment measures.

**Limitations.** The PCL-R has various explored limitations, which have been discussed through published concerns and public debates. Some items on the PCL-R require subjective judgements by the assessor, which can introduce a degree of subjectivity and potential bias. Furthermore, scoring and interpretation may vary between different assessors, leading to consistency in results. In addition, the PCL-R was primarily developed and validated in North American populations, which raises concerns about its applicability and cultural bias when used in different cultural contexts. This is mainly because the instruments' items and scoring criteria may not fully capture or adequately assess psychopathy in diverse populations such as major cities where cultural diversity is expected. Furthermore, there is an overemphasis on criminality when utilising the tool. As the PCL-R focuses heavily on criminal behaviours and antisocial traits, it limits its applicability when utilised in non-forensic or non-criminal populations as it may not fully capture psychopathic traits in indi-

viduals not exhibiting such behaviours. There is also a need for more consideration of protective factors. As the PCL-R primarily focuses on risk factors and negative aspects of psychopathy, examining protective factors or positive traits that may influence behaviour is neglected. In turn, this can affect an individual's treatment outcome.

## 2. Research Question

This proposed research aims to answer the question, "Can index offence type and socio-economic status predict psychopathy (as measured by PCL-R scores)?" Significant differences in offence type will be explored, and an overview will clarify if most offences "psychopaths" have committed are violent. Thereby, common traits are identified, which, in turn, can help identify and manage risks posed. Furthermore, by determining whether socioeconomic status is a significant predictive factor of psychopathy, further screening measures and crime prevention strategies are proposed.

## 3. Methods

As the data is of quantitative nature, this research will utilise a quantitative approach to analyse the outputs. Data is derived from the Office for National Statistics Survey of Psychiatric Morbidity among Prisoners in England and Wales in 1997 (NPPMS1999) and Singleton *et al.*'s summary report [19].

### Participants

Recorded in the NPPMS (1999) are a total of 3142 participants. The subgroup selected for this research were those who had undergone the PCL-R assessment and answered queries regarding socioeconomic status. This was calculated as 433 participants, 342 (78.98%) male (Coded as 1) and 91 (21.02%) female (Coded as 2). The age ranged from 16 to 63 years ( $M = 29.56$ ,  $SD = 9.552$ ). Regarding ethnic background, 83.15% of participants identified as "White" (Coded as 1), 11.54% as "Black" (Coded as 2), and 5.31% as "Other" (Coded as 3).

An overview of the descriptive statistics is provided in **Table 1** (below).

### Measures

This study's exposure (Independent) variables will be the Index Offence logged and the participants' socio-economic status. The outcome (Dependent) variable will be PCL-R scores recorded.

### Procedure

An ordinal logistic regression was run to explore PCL-R scores (DV) based on

**Table 1.** Descriptive Statistics: N, Mean, Standard deviation and range of each variable.

	N	Mean	SD	Range
Age	433	29.56	9.55	47
Sex	433	1.21	.41	1
Ethnic	433	1.22	.53	2



index offence ( $IV_1$ ) and socio-economic status ( $IV_2$ ). This was done in SPSS (Statistical Package for the Social Sciences; IBM SPSS Statistics, 2023). Variables for index offences were categorised according to the index offence's severity and whether direct bodily harm was committed. Crimes are categorised into three and are labelled "serious violence", "other serious", and "other major".

**Serious Violence.** Index offences in Category 1 must involve direct bodily harm with serious intent. Examples include murder, grievous physical harm, terrorism, and rape.

**Other Serious.** In Category 2, the nature of the offence is considered alongside the harm caused. The significant difference is that serious violence must cause direct bodily harm, whilst other serious should have the intent of serious violence. Examples of this category include affray, threatening, conspiracy to murder, and possession of firearms.

**Other Major.** Category 3 includes all offences considered not to be of violent nature nor directly physically harming others. Examples include breaching probation or community order, forgery, a conspiracy of theft and customs evasions.

**PCL-R scores.** PCL-R scores were categorised into 3, with 1 being scores from 0 to 10 and considered as "low", 2 being scores between 10 and 25 and considered as "medium", and 3 being scores between 25 and 40 and considered as "high".

**SES scores.** The same concept was applied to SES groups with category 1 ("low") scores ranging from 0 to 5, category 2 ("medium") scores from 5 to 12 and category 3 ("high") scores between 12 and 20.

#### **Data Accessibility**

The process of gaining permission to utilize and access data from Queen Mary University of London involved several important considerations. Upon submitting an application, specific information was requested to ensure the responsible and ethical use of the data. This included, but was not limited to, details about the owners' area of research interest, the anticipated benefits to both the data owner and the broader public, ethical considerations, and measures to ensure data protection. The owners' area of research interest was a crucial aspect to ascertain, as it helped align the research objectives with the goals and intentions of the data providers. Understanding the broader context of the data and its intended use allowed for a more meaningful and mutually beneficial collaboration between researchers and data owners. Demonstrating the overall benefit to both the data owner and the broader public was essential in justifying the use of the data. By articulating the potential contributions of the research findings to advancing knowledge, informing policy, or improving practices, researchers could effectively communicate the value of accessing and analysing the data. Ethical considerations played a central role in the approval process, ensuring that the research adhered to ethical principles and guidelines. This included considerations such as confidentiality, privacy, consent, and the protection of participants' rights. By addressing these ethical concerns upfront and implementing appro-

priate safeguards, researchers could uphold the integrity and trustworthiness of the research process. Data protection was paramount to safeguarding the privacy and confidentiality of individuals whose data was being accessed and analysed. Measures such as anonymization were implemented to remove any personally identifiable information from the dataset, thus minimizing the risk of privacy breaches or unauthorized disclosures.

### **Ethics**

Given that the research involved the analysis of secondary data, there was no requirement to apply for ethics approval. Secondary data analysis involves the use of existing data that has been collected for purposes other than the researcher's study. As such, the research did not entail direct interaction with participants or the collection of new data, thereby mitigating the need for formal ethics approval. Furthermore, the absence of physical or mental risks for participants in the secondary data analysis process alleviated concerns related to participant welfare. Since the data had already been collected and anonymized, there was no potential harm or adverse impact on individuals associated with the research. Overall, the rigorous adherence to ethical principles and data protection measures ensured the responsible and ethical conduct of the research, thereby upholding the integrity and trustworthiness of the findings. By prioritizing transparency, accountability, and respect for individuals' rights, researchers could conduct their work in a manner that upheld the highest standards of ethical practice.

## **4. Results**

In this study, multicollinearity was assessed, and as all Tolerance values (measured by the Variance Inflation Factor) were more significant than 0.1 (with the lowest being .999), it did not indicate a collinearity problem. Furthermore, the assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds location model to a model with varying location parameters  $X^2(4) = 4.517, p = .341$ . The deviance goodness-of-fit test indicated that the model fit the observed data well,  $X^2(12) = 10.886, p = .539$ . The Pearson goodness-of-fit test suggested that the model was also an excellent fit to the observed data,  $X^2(12) = 8.988, p = .704$ . Furthermore, the final model statistically significantly predicted the dependent variable over and above the intercept-only model,  $X^2(4) = 17.274, p < .001$ .

In the analysis conducted, a comprehensive investigation was undertaken into the relationship between offence classification and its impact on the prediction of PCL-R scores. The results unveiled a statistically significant effect of offence classification on the prediction of PCL-R scores, as evidenced by the chi-squared statistic ( $X^2$ ) of 12.250 with 2 degrees of freedom (df), yielding a p-value of .002.

Delving deeper into the findings, it was revealed that the odds of offenders characterized by "Other Serious" index offences were approximately 2.030 times higher than those with other major index offences in terms of the likelihood of

obtaining higher PCL-R scores. This assertion was substantiated by a 95% confidence interval (CI) [1.335, 3.087]. The outcomes underscored a noteworthy association between the classification of offences and the propensity for elevated PCL-R scores among individuals with “Other Serious” index offences.

In contrast, the odds of offenders categorized with “Serious Violence” index offences did not significantly differ from those with other major index offences in terms of the likelihood of attaining higher PCL-R scores. This similarity was reflected in an odds ratio of 1.062 and a 95% CI [.665, 1.696]. The statistical evaluation further supported this finding, with a Wald chi-squared (X<sup>2</sup>) statistic of .063 and a p-value of .802 for 1 degree of freedom (df).

On a separate note, the analysis also addressed the influence of socioeconomic groups on the prediction of PCL-R scores. In this regard, the results pointed towards a lack of statistically significant effect. This observation was grounded in the chi-squared statistic (X<sup>2</sup>) of 3.653 with 2 degrees of freedom (df), resulting in a p-value of .161.

A concise overview of the outcomes is provided in Table 2 (below).

## 5. Discussion

### Index offences

**Findings.** This study found a statistically significant connection between index offences and PCL-R scores, thereby revealing a noteworthy association between certain criminal behaviour and psychopathic traits. Specifically, offenders with index offences classified as “Other Serious” (affray, threatening, conspiracy to murder etc.) were statistically most likely to receive high PCL-R scores. Furthermore, offenders with index offences “Other Major” and “Serious Violence” seem to have an equal tendency to receive high PCL-R scores.

**Emotional responses.** Psychopathy is associated with emotional detachment and reduced arousal in response to emotionally charged situations [20]. Individuals with high psychopathic traits may have difficulty experiencing emotions

Table 2. Ordinal logistic regression model.

	<i>B</i>	<i>SE B</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>OR</i>	<i>95% C.I. for OR</i>	
							<i>LL</i>	<i>UL</i>
Serious Violence	.06	.24	.06	1	.802	1.06	.67	1.70
Other Serious	.71	.21	10.70	1	<.001	1.34	1.34	3.09
Other Major	0 <sup>a</sup>					1		
Low SES	-1.55	.83	3.48	1	.062	.21	.04	1.08
Medium SES	-1.23	.78	2.48	1	.115	.29	.06	1.35
High SES	0 <sup>a</sup>							

*Note.* Model = “Enter” method in SPSS Statistics. *B* = unstandardized regression coefficient; *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit; *SE B* = standard error of the coefficient.

like fear, anxiety, or guilt, which are typically associated with criminal acts. In the context of index offences, the emotional detachment characteristics might render violent acts less emotionally distressing for the offender. One could also argue that thoughts of violent behaviour are comforting to the psychopathic individual. Hence, findings that charges such as “attempted murder” and “intent to kidnap” correlate more with PCL-R scores seem plausible.

Non-violent crimes often involve psychological manipulation and strategic planning rather than direct physical aggression. Individuals with high PCL-R scores, characterized by manipulative tendencies, may exploit their understanding of emotions to manipulate situations and coerce others into engaging in criminal acts like conspiracy to murder or possession of firearms. Their adeptness at playing on emotions can make them effective in orchestrating such intricate schemes.

In addition, threatening behaviours, where individuals instil fear in others, are often driven by intense emotional arousal. Individuals high in psychopathy traits may exhibit heightened emotional responsiveness in certain situations, leading to aggressive and intimidating behaviours. Researchers can unveil the underlying motivations behind threats by studying how these emotional responses interact with the intent to intimidate.

Moreover, high PCL-R scores often indicate a lack of empathy and remorse. In non-violent crimes like affray, individuals may exploit this deficit to engage in behaviours that threaten or incite fear in others, without considering the emotional impact of their actions. Analysing this lack of emotional concern can elucidate why they gravitate towards these forms of non-violent criminal behaviour.

**Impulsivity.** In addition, psychopathy is often linked to impulsivity and risk-taking behaviour [21] [22]. Offenders with high psychopathic traits may disregard consequences and be willing to engage in risky actions without considering the potential adverse outcomes. For instance, an impulsive individual with psychopathic tendencies might be more likely to engage in spontaneous and dangerous acts such as assault or robberies. However, whilst psychopaths can be impulsive, they can also plan long-term and calculate their actions to achieve their goals. Certain less violent offences, such as white-collar crimes, may require careful planning and patience, which aligns with psychopathic traits.

In addition, non-violent offenses such as possession of firearms can be influenced by impulsive tendencies. Individuals with high impulsivity traits may acquire firearms impulsively, without fully considering the potential violent consequences. Exploring how impulsivity interacts with psychopathy in non-violent contexts can offer insights into the emotional factors driving firearm possession.

**Sensation seeking.** The need for sensation-seeking behaviours, stimulation, and excitement has been linked to psychopathy [23] [24]. Therefore, engaging in violent or aggressive criminal acts may gratify those seeking intense stimulation. Index offences such as theft, sexual assault and fleeing from police may stimulate

these needs without necessarily resorting to major violent acts. In addition, psychopaths are known for their manipulative and cunning nature. They often excel at navigating social situations and exploiting others for personal gain. Less violent offences such as fraud, forgery or embezzlement can be committed through strategic planning and manipulation aligning with psychopathic traits.

Furthermore, emotionally charged non-violent crimes, like threatening or affray, may not involve direct physical harm but can still inflict emotional distress on victims. Individuals with psychopathy traits may exploit their emotional deficits to engage in actions that distress or harm others emotionally, capitalizing on their limited empathy.

**Skillset.** Non-violent crimes often involve psychological manipulation and strategic planning rather than direct physical aggression. Individuals with high PCL-R scores, characterized by manipulative tendencies, may exploit their understanding of emotions to manipulate situations and coerce others into engaging in criminal acts like conspiracy to murder or possession of firearms. Their adeptness at playing on emotions can make them effective in orchestrating such intricate schemes.

Psychopaths are often associated with possessing a superficial charm and can be skilled at avoiding suspicion or detection [25]. Engaging in less violent crimes may help them maintain a lower profile and evade law enforcement scrutiny than major violent offences, which typically attract more attention. Furthermore, psychopaths often have a grandiose sense of self-importance and believe they are above the law. Non-violent offences might provide means for them to satisfy their sense of entitlement and demonstrate their superiority without resorting to overt violence. In addition, psychopaths may be more concerned with maintaining a positive social image and status within their circles. Committing less violent offences might enable them to continue operating in social or professional environments without attracting significant negative attention.

Moreover, non-violent crimes often involve psychological manipulation and strategic planning rather than direct physical aggression. Individuals with high PCL-R scores, characterized by manipulative tendencies, may exploit their understanding of emotions to manipulate situations and coerce others into engaging in criminal acts like conspiracy to murder or possession of firearms. Their adeptness at playing on emotions can make them effective in orchestrating such intricate schemes.

**Correlation and causation.** It is essential to acknowledge that the observed correlation between index offences and PCL-R scores does not imply causation. The relationship between criminal behaviour and psychopathy is undoubtedly bidirectional and complex. While index offences may exacerbate psychopathic traits, it is equally plausible that pre-existing psychopathic characteristics might contribute to the commission of severe criminal acts. Furthermore, longitudinal research designs and more extensive investigations are necessary to disentangle the intricate interplay between criminal behaviour and psychopathy fully.

**Reciprocal influence.** The potential for a reciprocal impact between criminal behaviour and psychopathic traits should be acknowledged, as the relationship can be seen as a dynamic and reciprocal process. Individuals with pre-existing psychopathic traits may be more likely to engage in criminal behaviour due to their callousness, lack of empathy and impulsivity. These personality traits may drive them to commit violent or aggressive acts to achieve personal goals or gratification without considering the harm inflicted on others. Furthermore, longitudinal research suggests certain psychopathic traits can manifest early in life, even during childhood. Callous and unemotional traits, such as a lack of guilt or empathy, may be precursors to later psychopathic behaviours, including criminal conduct [26]. In some cases, childhood behaviours indicative of psychopathy, such as cruelty to animals or persistent aggression, might foreshadow the commission of more severe criminal acts in adulthood.

**Risk factors.** Furthermore, psychopathy and criminal behaviour share common risks and underlying factors [17] [27]. For instance, adverse childhood experiences, such as abuse, neglect, or exposure to violence, have been linked to psychopathy and criminal conduct. In addition, committing criminal acts, such as index offences, may reinforce and escalate psychopathic traits over time. Suppose individuals with pre-existing psychopathic tendencies experience success or perceive a lack of consequences for their criminal actions. In that case, they may be further emboldened to engage in more severe and violent acts. Furthermore, the environment and social context in which individuals with psychopathic traits are raised and live can significantly impact their criminal behaviour. For instance, exposure to deviant peer groups or communities with high criminal activity may exacerbate existing psychopathic traits and increase the likelihood of involvement in index offences.

#### **Socioeconomic status**

**Findings.** This study did not find a statistically significant relationship between SES and psychopathic traits, indicating no noteworthy association between these and no indication of SES scores influencing psychopathic tendencies. This is an interesting finding as a substantial body of research has explored the relationship between socioeconomic status (SES) and psychopathy, with many studies reporting a positive association between lower SES and higher levels of psychopathic traits [28] [29].

**Societal and cultural effects.** This research found no significant relationship between psychopathy and SES. One explanation for this is that SES's impact on psychopathy may vary across different cultural and societal contexts [30] [31]. Certain societies or cultures may have unique social norms and expectations that influence the expression of psychopathic traits very differently among individuals from various socioeconomic backgrounds. Certain psychopathic traits may be more tolerated or even rewarded in some cultures, leading to a weaker association between SES and PCLR scores. Traits such as assertiveness, dominance, and charm may be perceived as positive attributes, especially in competitive environments or positions of power. As a result, individuals with these traits may be

more likely to succeed and thrive, irrespective of their SES. This cultural acceptance may weaken or obscure the relationship between SES and PCL-R scores.

Cultural differences in parenting styles and socialisation practices can shape the development of personality traits, including those associated with psychopathy. In some cultures, emphasis on individualism, achievement, and self-reliance may be more pronounced, potentially contributing to the development of certain psychopathic traits regardless of SES. In addition, in societies where psychopathy is heavily stigmatised, individuals with psychopathic traits may be less likely to be identified, diagnosed, or reported, regardless of their socioeconomic background. This underreporting or lack of recognition could mask any potential differences in PCL-R scores related to SES.

Societal structures and power hierarchies can influence how psychopathic traits are expressed and perceived. Individuals from all socioeconomic backgrounds can rise to positions of power and influence, and their psychopathic traits may be more evident and rewarded in these settings. Consequentially, the relationship between SES and PCL-R scores may not be as straightforward as expected. On the other hand, specific cultural and societal factors might exacerbate the impact of lower SES on the development of psychopathic traits. For example, individuals facing high levels of socioeconomic stress, such as poverty, discrimination, or lack of social support, may be more prone to developing maladaptive personality traits, including those associated with psychopathy.

**Measurement.** Furthermore, SES is a multifaceted construct that includes various indicators such as income, education level, and occupational status [32] [33]. Complexity arises from the lack of universally agreed-upon definitions or standardised methods to measure SES. Different researchers and studies might employ distinct measures of SES, leading to variations in how it is operationalised and ultimately impacting the findings related to its influence on psychopathy measured by PCL-R scores. Some studies use a single indicator, such as income or education level, as a proxy for SES. Whilst these indicators can be informative, they may not fully capture the individuals' or families' overall socioeconomic status. Single indicators can oversimplify the complexity of SES, potentially leading to incomplete or misleading associations with psychopathy. In contrast, researchers may assess SES in terms of relative standing within a specific population (e.g., comparing an individual income to the average income in their country) or in terms of absolute standards (e.g., measuring an individual income in terms of purchasing power parity). The choice of relative or absolute SES measurement can affect the results and interpretation of the relationship with psychopathy. Hence, a relationship between SES and PCL-R scores cannot always be found.

**Dimensional interplay.** Furthermore, SES is a multidimensional concept, and different indicators may interact complexly. For instance, an individual with a mighty income may have lower educational attainment, or someone with a prestigious occupation may live in a low-income neighbourhood. The interplay of these dimensions can influence psychopathy differently depending on the spe-

cific combination of SES indicators. Furthermore, as psychopathy compromises multidimensional traits like manipulation, callousness, and impulsivity, and SES encapsulates economic, educational, and social factors, they yield a multifaceted dynamic. This can be exemplified by two individuals, X and Y. X has high impulsivity traits, whilst Y scores high on manipulation. X grew up in a low-income neighbourhood, facing limited opportunities. X's impulsive tendencies and lack of resources might lead to impulsive shoplifting or drug-related behaviours. In contrast, Y comes from an affluent background, and the manipulation traits could manifest in financial fraud schemes due to the access and confidence the SES provides. This demonstrates how the interplay between psychopathy and SES can shape distinct criminal behaviours based on individual traits and life circumstances.

**High SES = high PCL-R?** Although low SES scores are more commonly associated with criminal behaviour, this research suggests that may not be the case. In contrast, individuals with high SES may have been exposed to various social situations, education, and opportunities which can contribute to developing strong interpersonal skills, including manipulation. When combined with high psychopathy traits, they may use their manipulation skills to achieve personal gain or exert control over others. Furthermore, high SES individuals may have grown up in an environment where they experienced privileges and entitlement. When combined with psychopathic traits, this sense of entitlement can lead them to exploit and disregard the rights and feelings of others to fulfil their desires. In addition, psychopathy is characterised by a lack of empathy and emotional detachment. Individuals with high SES may have had limited exposure to diverse life experiences, making it more challenging to develop empathy for others. This lack of empathy could lead to callous and unfeeling behaviour.

Furthermore, high SES individuals might have the financial means to engage in risk-taking behaviour without facing immediate consequences. When paired with psychopathic traits, such as impulsivity and a disregard for rules and social norms, they may engage in reckless behaviours without considering the impact on others. In addition, high SES often comes with a competitive environment and a drive for success. This drive can become extreme for individuals with psychopathic traits, leading them to pursue power and control at any cost, including engaging in criminal behaviour.

Psychopathy is often associated with superficial charm and the ability to manipulate others in social situations. In high SES circles, individuals with these traits might use their charm to gain social influence and maintain a positive image when hiding their darker tendencies. However, it is essential to note that not all individuals with high SES and PCL-R scores will exhibit these characteristics. Psychopathy is a complex personality disorder influenced by various factors, including genetics, environment, and early life experiences. Furthermore, high SES does not determine a person's character or behaviour, as individuals from all socioeconomic backgrounds can display various personality traits and behaviours.

**Low SES = low PCL-R?** Individuals from low SES backgrounds often face



economic hardships and have limited access to education, healthcare, and job opportunities, and there is a stigma surrounding psychopathy and crime. However, although this lack of resources might contribute to frustration, hopelessness, and stress, it does not mean the individual is engaging in criminal acts. Furthermore, while low PCL-R scores suggest a lower likelihood of exhibiting psychopathic traits, individuals from low SES backgrounds might develop greater empathy and compassion for others due to their shared struggles and experiences. Moreover, facing adversity might foster resilience and a sense of community support. In addition, individuals with low SES might be more risk-averse because they cannot afford to take chances that could lead to further hardship. This cautious approach to life may prevent them from engaging in impulsive or reckless behaviours.

A lower socioeconomic environment might not expose individuals to the same competition and power struggles in high SES circles. As a result, they may be less likely to develop manipulative or power-seeking tendencies associated with psychopathy. Furthermore, people from low SES backgrounds may rely heavily on social connections and family support systems due to limited resources. These strong bonds can encourage cooperation and pro-social behaviour rather than self-centred or antisocial tendencies. In addition, low SES communities might empathise with collective well-being and social responsibility. This focus on communal values can shape individuals' behaviour to align with the group's welfare rather than pursuing individual gains.

Experiencing hardship and adversity in low SES environments can foster a greater appreciation for the struggles of others and lead to a deeper understanding of empathy. Given the potential negative consequences of risky actions in low SES contexts, individuals may be less inclined to engage in behaviours that could jeopardise their limited resources or social standing. Moreover, individuals from low SES backgrounds may have less to gain from manipulating and exploiting others, as their immediate needs are often focused on basic survival and stability. In addition, demonstrating reliance and overcoming challenges alongside developing prosocial behaviours may be of greater value for individuals from lower SES backgrounds.

## 6. Limitations and Future Research

**Research design.** Longitudinal research design and extensive investigations are essential to disentangle the relationship between criminal behaviour and psychopathy fully. As this research was not longitudinal, it failed to follow individuals over extended periods. It consequentially could not discern the temporal sequence of psychopathic traits and criminal acts, providing insight into the potential direction of causality. Furthermore, no information was given regarding the assessment technique of SES. This limits the researchers' knowledge of what factors were weighted more heavily than others.

**Gender bias.** A limitation of this research is the potential gender bias in the

sample utilised. Psychopathy research has shown that there are differences in the prevalence and manifestation of psychopathic traits between men and women [34]. The study does not solely focus on either males or females. Consequentially, it captures the full spectrum of psychopathy and its association with offences. However, roughly two-thirds of the sample were men, which means the data is slightly skewed. Future research should try to maintain an even balance between male and female participants by utilising stratified sampling as a collection measure. Consequentially, future research could provide a more comprehensive understanding of the relationship between psychopathy scores and criminal behaviour.

**Comorbidity.** This study failed to investigate the potential impact of other diagnoses and control factors on psychopathy assessments is of utmost importance to attain a comprehensive understanding of an individual's mental health profile. Psychopathy assessments, while informative, are not conducted in isolation. Hence, it is essential to consider the presence of co-occurring mental health disorders and other relevant factors that could influence or interact with the manifestation of psychopathic traits. Examining these additional diagnoses and control factors can paint a more accurate and nuanced picture of the individual's overall psychological functioning. Co-occurring mental health disorders, such as antisocial personality disorder, narcissistic personality disorder, or substance use disorders, can significantly impact the expression and severity of psychopathic traits. These disorders often share overlapping features or behaviours with psychopathy, making it crucial to disentangle their respective contributions. Future research should identify the presence and influence of these co-occurring disorders, so clinicians and researchers can gain insight into how they may shape or modify the presentation of psychopathy in an individual.

## 7. Conclusions

This study found a significant association between criminal behaviour and psychopathic traits. Offenders with index offences categorised as "other serious" were likelier to receive higher PCL-R scores than their counterparts "other major" and "serious violence". Several mechanisms may explain this correlation, including emotional detachment, impulsivity, risk-taking behaviour, sensation-seeking tendencies, and manipulative skills associated with psychopathy. Furthermore, it is essential to note that causation cannot be assumed, and the relationship between criminal behaviour and psychopathy is complex and bidirectional. Factors such as adverse childhood experiences, genetics, and social environments may also contribute to development of psychopathic traits and criminal conduct. Therefore, understanding these relationships can inform interventions and risk assessments for offenders with psychopathic tendencies, potentially reducing criminal behaviour and improving rehabilitation outcomes.

Previous research on the relationship between SES and psychopathy has yielded mixed findings. While some studies report a positive association between lower SES and higher psychopathic traits, the current study did not find a statis-

tically significant relationship between SES and PCL-R scores among offenders. However, cultural, and societal factors, the complexity of measuring SES, and the interplay of underlying personality traits may contribute to these varied results. Hence, it is crucial to consider the influence of diverse factors in understanding the link between SES and psychopathy, as individuals from all socio-economic backgrounds can display a wide range of personality traits and behaviours. Moreover, psychopathy is a complex personality disorder influenced by a combination of genetic, environmental, and individual factors. Therefore, caution is necessary when making assumptions about the relationship between SES and psychopathic tendencies.

However, this study comes with a range of limitations, such as the lack of a longitudinal research design, potential gender bias, and comorbidity. Hence, these limitations should be addressed in future research. By refining methodologies and widening the scope internationally, we can develop more effective interventions and policies to address psychopathy's societal impact.

### Conflicts of Interest

The authors declare no conflicts of interest.

### References

- [1] Simourd, D.J. and Hoge, R.D. (2000) Criminal Psychopathy: A Risk-and-Need Perspective. *Criminal Justice and Behavior*, **27**, 256-272. <https://doi.org/10.1177/0093854800027002007>
- [2] Farrington, D.P. and Bergström, H. (2022) The Development of Psychopathy through the Lifespan and Its Relation to Offending. In: Marques, P.B., Paulino, M. and Alho, L., Eds., *Psychopathy and Criminal Behaviour*, Academic Press, New York, 105-125. <https://doi.org/10.1016/B978-0-12-811419-3.00014-5>
- [3] Schulsinger, F. (1972) Psychopathy: Heredity and Environment. *International Journal of Mental Health*, **1**, 190-206. <https://doi.org/10.1080/00207411.1972.11448574>
- [4] Nijman, H., Merckelbach, H. and Cima, M. (2009) Performance Intelligence, Sexual Offending and Psychopathy. *Journal of Sexual Aggression*, **15**, 319-330. <https://doi.org/10.1080/13552600903195057>
- [5] Heilbrun, A.B. (1979) Psychopathy and Violent Crime. *Journal of Consulting and Clinical Psychology*, **47**, 509-516. <https://doi.org/10.1037/0022-006X.47.3.509>
- [6] Baker, E.H. (2014) Socioeconomic Status, Definition. In: Cockerham, W.C., Dingwall, R. and Quah, S.R., Eds., *The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society*, John Wiley & Sons, Ltd., Hoboken, 2210-2214. <https://doi.org/10.1002/9781118410868.wbehibs395>
- [7] Di Domenico, S.I. and Fournier, M.A. (2014) Socioeconomic Status, Income Inequality, and Health Complaints: A Basic Psychological Needs Perspective. *Social Indicators Research*, **119**, 1679-1697. <https://doi.org/10.1007/s11205-013-0572-8>
- [8] Seabrook, J.A. and Avison, W.R. (2012) Socioeconomic Status and Cumulative Disadvantage Processes across the Life Course: Implications for Health Outcomes. *Canadian Review of Sociology/Revue canadienne de sociologie*, **49**, 50-68. <https://doi.org/10.1111/j.1755-618X.2011.01280.x>

- [9] Santiago, C.D., Wadsworth, M.E. and Stump, J. (2011) Socioeconomic Status, Neighborhood Disadvantage, and Poverty-Related Stress: Prospective Effects on Psychological Syndromes among Diverse Low-Income Families. *Journal of Economic Psychology*, **32**, 218-230. <https://doi.org/10.1016/j.joep.2009.10.008>
- [10] Rekker, R., Pardini, D., Keijsers, L., Branje, S., Loeber, R. and Meeus, W. (2015) Moving in and Out of Poverty: The within-Individual Association between Socioeconomic Status and Juvenile Delinquency. *PLOS ONE*, **10**, e0136461. <https://doi.org/10.1371/journal.pone.0136461>
- [11] Sampson, R.J., Wilson, W.J. and Katz, H. (2018) Reassessing “Toward a Theory of Race, Crime, and Urban Inequality”: Enduring and New Challenges in 21st Century America. *Du Bois Review: Social Science Research on Race*, **15**, 13-34. <https://doi.org/10.1017/S1742058X18000140>
- [12] Weisburd, D., Groff, E.R. and Yang, S.M. (2014) Understanding and Controlling Hot Spots of Crime: The Importance of Formal and Informal Social Controls. *Prevention Science*, **15**, 31-43. <https://doi.org/10.1007/s11121-012-0351-9>
- [13] Tooley, U.A., Bassett, D.S. and Mackey, A.P. (2021) Environmental Influences on the Pace of Brain Development. *Nature Reviews Neuroscience*, **22**, 372-384. <https://doi.org/10.1038/s41583-021-00457-5>
- [14] Hare, R.D. (1991) Psychopathy Checklist—Revised. APA PsycTests. <https://doi.org/10.1037/t01167-000>
- [15] Hare, R.D. (2003) Manual for the Hare Psychopathy Checklist-Revised. 2nd Edition, Multi-Health Systems, Toronto.
- [16] Cooke, D.J., Michie, C., Hart, S.D. and Hare, R.D. (1999) Evaluating the Screening Version of the Hare Psychopathy Checklist—Revised (PCL: SV): An Item Response Theory Analysis. *Psychological Assessment*, **11**, 3-13. <https://doi.org/10.1037/1040-3590.11.1.3>
- [17] DeMatteo, D., Hart, S.D., Heilbrun, K., Boccaccini, M.T., Cunningham, M.D., Douglas, K.S., Dvoskin, J.A., Edens, J.F., Guy, L.S., Murrie, D.C., Otto, R.K., Packer, I.K. and Reidy, T.J. (2020) Statement of Concerned Experts on the Use of the Hare Psychopathy Checklist—Revised in Capital Sentencing to Assess Risk for Institutional Violence. *Psychology, Public Policy, and Law*, **26**, 133-144. <https://doi.org/10.1037/law0000223>
- [18] Olver, M.E., Stockdale, K.C., Neumann, C.S., Hare, R.D., Mokros, A., Baskin-Sommers, A., Brand, E., Folino, J., Gacono, C., Gray, N.S., Kiehl, K., Knight, R., Leon-Mayer, E., Logan, M., Meloy, J.R., Roy, S., Salekin, R.T., Snowden, R., Thomson, N. and Yoon, D. (2020) Reliability and Validity of the Psychopathy Checklist-Revised in the Assessment of Risk for Institutional Violence: A Cautionary Note on DeMatteo *et al.* (2020). *Psychology, Public Policy, and Law*, **26**, 490-510. <https://doi.org/10.1037/law0000256>
- [19] Singleton, N., Meltzer, H., Gatward, R., Coid, J. and Deasy, D. (1997) Psychiatric Morbidity among Prisoners. Summary Report.
- [20] Dhingra, K. and Boduszek, D. (2013) Psychopathy and Criminal Behaviour: A Psychosocial Research Perspective. *Journal of Criminal Psychology*, **3**, 83-107.
- [21] Weidacker, K., O’Farrell, K.R., Gray, N.S., Johnston, S.J. and Snowden, R.J. (2017) Psychopathy and Impulsivity: The Relationship of the Triarchic Model of Psychopathy to Different Forms of Impulsivity in Offenders and Community Participants. *Personality and Individual Differences*, **114**, 134-139. <https://doi.org/10.1016/j.paid.2017.03.069>
- [22] Hosker-Field, A.M., Molnar, D.S. and Book, A.S. (2016) Psychopathy and Risk

- Taking: Examining the Role of Risk Perception. *Personality and Individual Differences*, **91**, 123-132. <https://doi.org/10.1016/j.paid.2015.11.059>
- [23] Skovran, L.C., Huss, M.T. and Scalora, M.J. (2010) Sexual Fantasies and Sensation Seeking among Psychopathic Sexual Offenders. *Psychology, Crime & Law*, **16**, 617-629. <https://doi.org/10.1080/10683160902998025>
- [24] Vitacco, M.J. and Rogers, R. (2001) Predictors of Adolescent Psychopathy: The Role of Impulsivity, Hyperactivity, and Sensation Seeking. *The Journal of the American Academy of Psychiatry and the Law*, **29**, 374-382.
- [25] Hesse, M. (2009) Portrayal of Psychopathy in the Movies. *International Review of Psychiatry (Abingdon, England)*, **21**, 207-212. <https://doi.org/10.1080/09540260902747441>
- [26] De Brito, S.A., Forth, A.E., Baskin-Sommers, A.R., Brazil, I.A., Kimonis, E.R., Pardini, D., Frick, P.J., Blair, R.J.R. and Viding, E. (2021) Psychopathy. *Nature Reviews Disease Primers*, **7**, Article No. 49. <https://doi.org/10.1038/s41572-021-00282-1>
- [27] Pedersen, L., Kunz, C., Rasmussen, K. and Elsass, P. (2010) Psychopathy as a Risk Factor for Violent Recidivism: Investigating the Psychopathy Checklist Screening Version (PCL: SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP) in a Forensic Psychiatric Setting. *International Journal of Forensic Mental Health*, **9**, 308-315. <https://doi.org/10.1080/14999013.2010.526681>
- [28] Walsh, Z. and Kosson, D.S. (2007) Psychopathy and Violent Crime: A Prospective Study of the Influence of Socioeconomic Status and Ethnicity. *Law and Human Behavior*, **31**, 209-229. <https://doi.org/10.1007/s10979-006-9057-5>
- [29] Baker, S., Javakhishvili, M. and Widom, C.S. (2023) Childhood Family and Neighbourhood Socio-Economic Status, Psychopathy, and Adult Criminal Behaviour. *Legal and Criminological Psychology*, **28**, 106-121. <https://doi.org/10.1111/lcrp.12228>
- [30] Wernke, M.R. and Huss, M.T. (2008) An Alternative Explanation for Cross-Cultural Differences in the Expression of Psychopathy. *Aggression and Violent Behavior*, **13**, 229-236. <https://doi.org/10.1016/j.avb.2008.04.004>
- [31] Shariat, S.V., Assadi, S.M., Noroozian, M., Pakravannejad, M., Yahyazadeh, O., Aghayan, S., Michie, C. and Cooke, D. (2010) Psychopathy in Iran: A Cross-Cultural Study. *Journal of Personality Disorders*, **24**, 676-691. <https://doi.org/10.1521/pedi.2010.24.5.676>
- [32] Ensminger, M.E. and Fothergill, K. (2003) A Decade of Measuring SES: What It Tells Us and Where to Go from Here. In: Bornstein, M.H. and Bradley, R.H., Eds., *Socioeconomic Status, Parenting, and Child Development*, Lawrence Erlbaum Associates Publishers, Mahwah, 13-27.
- [33] Cirino, P.T., Chin, C.E., Sevcik, R.A., Wolf, M., Lovett, M. and Morris, R.D. (2002) Measuring Socioeconomic Status: Reliability and Preliminary Validity for Different Approaches. *Assessment*, **9**, 145-155. <https://doi.org/10.1177/10791102009002005>
- [34] Nicholls, T.L. and Petrila, J. (2005) Gender and Psychopathy: An Overview of Important Issues and Introduction to the Special Issue. *Behavioral Sciences & the Law*, **23**, 729-741. <https://doi.org/10.1002/bsl.677>