The role of the Built Environment in Child Psychopathy

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Abstract

This study explores how neighbourhood disorder, measured at age 3, influences the development of callous and unemotional traits, measured at age 11. The data used is from a longitudinal study called the Millenium Cohort Study (MCS). Findings reveal a subtle but significant link between neighbourhood disorder and callous and unemotional traits in children. This research highlights the importance of the built environment in child development.

Keywords: Callous and Unemotional Traits, Built Environment, Neighbourhood Disorder, Psychopathy

Background

The built environment includes human-made spaces (Kaklauskas, 2016). Psychopathy is a neuropsychiatric disorder marked by deficient emotional responses and lack of empathy often leading to antisocial and criminal behaviour (Anderson, 2014).

Due to traits like impulsivity being normal in children, psychopathy is typically diagnosed only in those over 18 (Bjørnebekk, 2021). However, early behavioural patterns, such as callous and unemotional traits, are linked to later psychopathy development in adulthood (Christopher T, 2000).

In this study, callous and unemotional traits are used as a proxy for psychopathy, and neighbourhood disorder is used as a proxy for the built environment.

Analytical Strategy

Calculated unweighted descriptive statistics to assess missingness and sample bias by comparing the analytic sample to the non-analytic sample.

1.Examined correlations between built environment variables and callous-unemotional traits using PCA.

2.Performed simple and multiple linear regressions to analyse the relationship between the built environment and callous-unemotional traits, accounting for covariates.

Measures

Callous and Unemotional Traits at Age 11: Measured using a self-completion form with four Likert scale items. PCA provided a single score, with higher scores indicating more traits.

Neighbourhood Disorder at Age 3: Assessed through 11 items .

PCA combined these into a single score, with higher scores indicating worse neighbourhood conditions.

Covariates: Controlled for air pollution, ethnicity, family poverty, maternal education, garden access, substance use, maternal mental health, family structure, partner violence, and home environment.

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PCA is a statistical technique used to reduce the dimensionality of data by transforming it into a set of linearly uncorrelated variables known as principal components.

Results

Results show that there is a significant relationship between the built environment and callous-unemotional traits. The multiple linear regression analysis demonstrates that, while the built environment's effect is statistically significant, its impact is relatively small. As the built environment deteriorates, there is a small but significant increase in callous-unemotional traits. Other factors like ethnicity and maternal education also play significant roles, impacting the strength of the relationship.

The model explains only a modest portion of the variance, suggesting that additional factors might influence the results, warranting further research to reduce omitted variable bias.

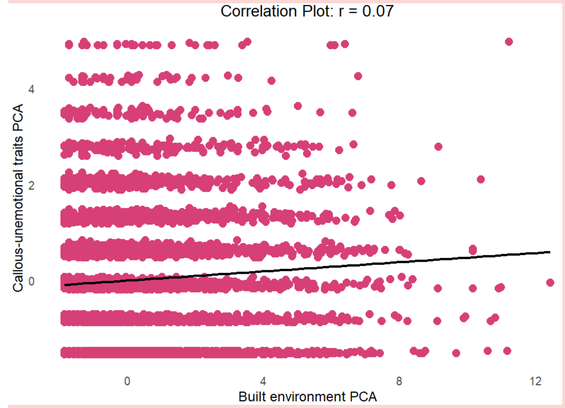

Figure 1: correlation graph displaying the relationship between callous-unemotional traits and the built environment

Conclusion

There is a statistically significant relationship between the built environment and the development of callous-unemotional traits in children. As neighbourhood disorder increases, there is an increase in the expression of these traits, indicating that children in more disordered environments may exhibit less empathy and more emotional coldness.

References

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