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What do we need to know?

The risks and processes which give rise to violent offending among injection drug users (IDU) are not well understood. Difficulties understanding why drugs and violence are so closely related are attributable to both the complexity of the problem, and the lack of a comprehensive theoretical framework to guide empirical investigation. This study uses a developmental framework to understand whether early life risk factors (i.e. child maltreatment, conduct problems, difficult temperaments) can explain heterogeneity in the violent careers of IDU. To date, no studies have used a developmental approach to understand heterogeneity in violent offending careers of IDU.

Moffitt's (1993) developmental theory is based on two central assumptions:

- (1) The individuals follow distinct offending trajectories based on their age of onset of offending; and
- (2) That these trajectories are differentially affected by unique crime-exacerbating factors: chronic offending trajectories originate from childhood adversity; transient offending trajectories from a desire to engage in adult activities before is legally possible (i.e. drinking).

This research has implications for the targeted intervention of unique sub-groups of violent IDU.

AIMS: (1) Determine whether Moffitt's theory can be used to identify distinct classes of violent IDU based on age of onset of violence; (2) Examine whether latent classes of violent IDU were differentiated by trajectory-specific risks.

What did we do?

Data: Cross-sectional data was collected from 300 regular (weekly or more) injecting drug users in greater Sydney, Australia. The majority were male (70%), with a mean age of 37.1 (S.D: 7.9).

A structured interview addressed: Demographics, substance use (*age onset, AUDIT (alcohol use disorder identification test), polysubstance use*), violent offending, child psychopathology (*Conduct disorder [CD], Attention deficit-hyperactivity disorder [ADHD]*), trait personality characteristics (*impulsivity, aggression*), child maltreatment (*physical abuse, neglect, injury sustained*).

Statistical Analysis:

- Latent classes were derived using mixture modelling in Mplus. Class indicators were: having ever committed a violent offence (yes/no), age of first committing a violent offence (years), number of violent offences committed, and, duration of violent offending (years).
- One-way analysis of variance and chi-square used to determine significant differences between classes in their psychosocial profiles.
- Multinomial regression modelling was used to determine what factors were associated with class membership.

What did we find?

A four-class solution provided the best fit to the data (based on ssaBIC, LMR-LRT).

1. **Class 1** were a '**Non-violent**' (N=72, 24%) group, having never committed a violent offence.
 2. **Class 2** were the '**Early-onset chronics**' (N=58, 19%) as they had the earliest age of onset of violent offending, committed the greatest number of violent offences, over the longest duration.
 3. **Class 3** were the '**Adult-onset transients**' (N=72, 24%) as they only started to commit violence in adulthood, committed only a small number of violent offences, over a relatively short period of time.
 4. **Class 4** were '**Adolescent-onset moderate chronics**' (N=98, 33%). They began violent offending in adolescence, committed a moderate number of offences, over a long period (see Table 1).
- Classes were compared on substance use, child psychopathology, personality and maltreatment measures: classes differed significantly on all variables except being male (p=0.41) and child neglect (p=0.06).
 - There was a clear hierarchy in the severity of psychosocial profiles by class. Early-onset chronics had the poorest profile, and the Non-violent class had the most favourable.
 - The Odds ratios (OR) and confidence intervals for the significant correlates of class membership are shown in Figure 1 (Class 2 used as the referent).
 - The regression model explained **69.7%** variance in class membership.

Table 1. Mean age of onset, frequency, and duration of violence for violent classes (2, 3 and 4)



Fig. 1. Odds ratios (ORs) and CIs for significant correlates of class membership (Class 2 used as referent)

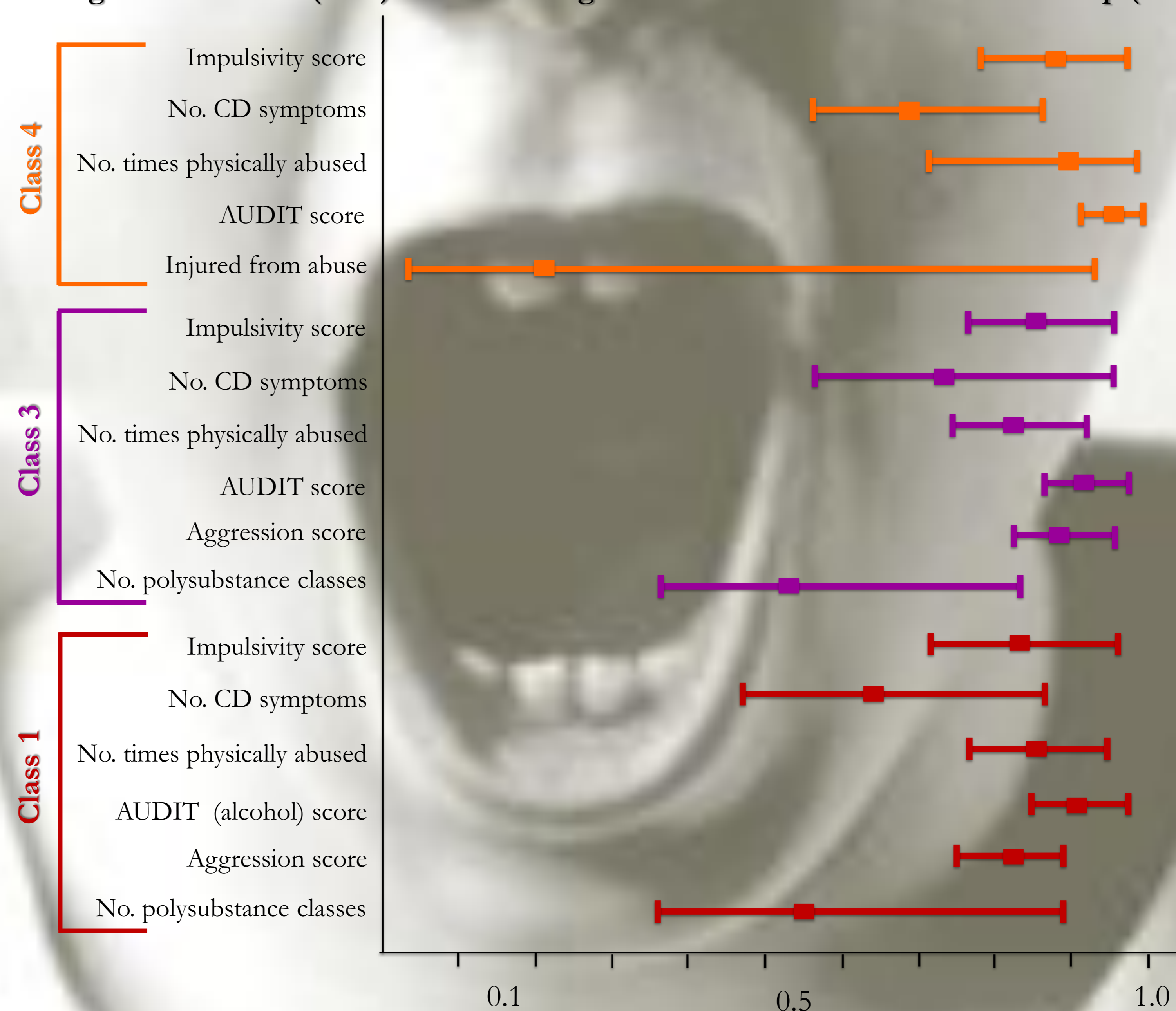


Figure 1:

Classes 1, 3 and 4 all differed from Class 2 on:

- Lower impulsivity scores
- Fewer CD symptoms;
- Fewer incidents of physical abuse; and
- Lower alcohol use scores.

These common risks were overlaid by class-specific risks, where lower trait aggression scores and less polysubstance use further differentiated Classes 1 and 3 from Class 2, whilst less severe child physical abuse (i.e. fewer injuries) uniquely differentiated Class 4 from Class 2.

In conclusion...

- IDU formed distinct violent offending classes based on their age of onset of violent offending, consistent with Moffitt's (1993) developmental hypothesis.
- Whilst Moffitt (1993) argued for trajectory-specific risks, this study found substantial commonality in the risks which differentiated the Early-onset chronics from all other classes. These common risks were overlaid by unique risks, however, only to a small extent.
- Overall, class membership appeared to be the product of the extent of cumulative exposure to multiple early life risks.
- Developmental theory appears to be highly useful for examining the violent careers of IDU.
- There is a clear case for early intervention, particularly among children displaying early aggressive and impulsive behavioural problems



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