



The Intersection between Drugs and Crime

Can a measure of psychological drug dependence predict community-based outcomes and uncover offender characteristics that are important for client-treatment matching?

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SAFETY, RESPECT
AND DIGNITY
FOR ALL

LA SÉCURITÉ,
LA DIGNITÉ
ET LE RESPECT
POUR TOUS



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Severity of Dependence Scale (SDS)

Gossop et al. 1995

- Degree of psychological drug dependence
- Five items (for a possible total score of 15):
 1. Do you think your use of (*named drug*) was out of control?
 2. Did the prospect of missing a fix make you anxious or worried?
 3. Did you worry about your use of (*named drug*)?
 4. Did you wish you could stop?
 5. How difficult did you find it to stop or go without (*named drug*)?
- Used with a number of populations
- Considered valid measure of psychological drug dependence



Research Questions

1. Can SDS be used as a reliable screening instrument?
2. Can SDS identify important dimensions that are useful for client-treatment matching?
3. Is SDS predictive of recidivism?
4. Can we expect differential treatment effects based on the SDS-derived classification of psychological drug dependence?
5. Is SDS predictive of relapse to substance use?



- N= 3350 (admissions to federal custody)
- N=1667 (release cohort)
- Quantitative, empirical approach:
 - Cronbach's Coefficient Alpha to establish the reliability (internal consistency) of the SDS
 - Canonical Correlation Analysis to determine the dimensional relationship between the SDS and the DAST (Skinner, 1982) reference standard
 - ROC Analysis to determine the best cut-off score on the SDS for a classification of psychological drug dependence (based on the DAST reference standard)
 - Multivariable Logistic Regression to identify the dimensions of the classification
 - Cox Proportional Hazards Modelling (i.e., survival analysis) to see if the classification predicted post-release rates of revocation (return to custody) and rates of relapse to substance use (urinalysis tests)



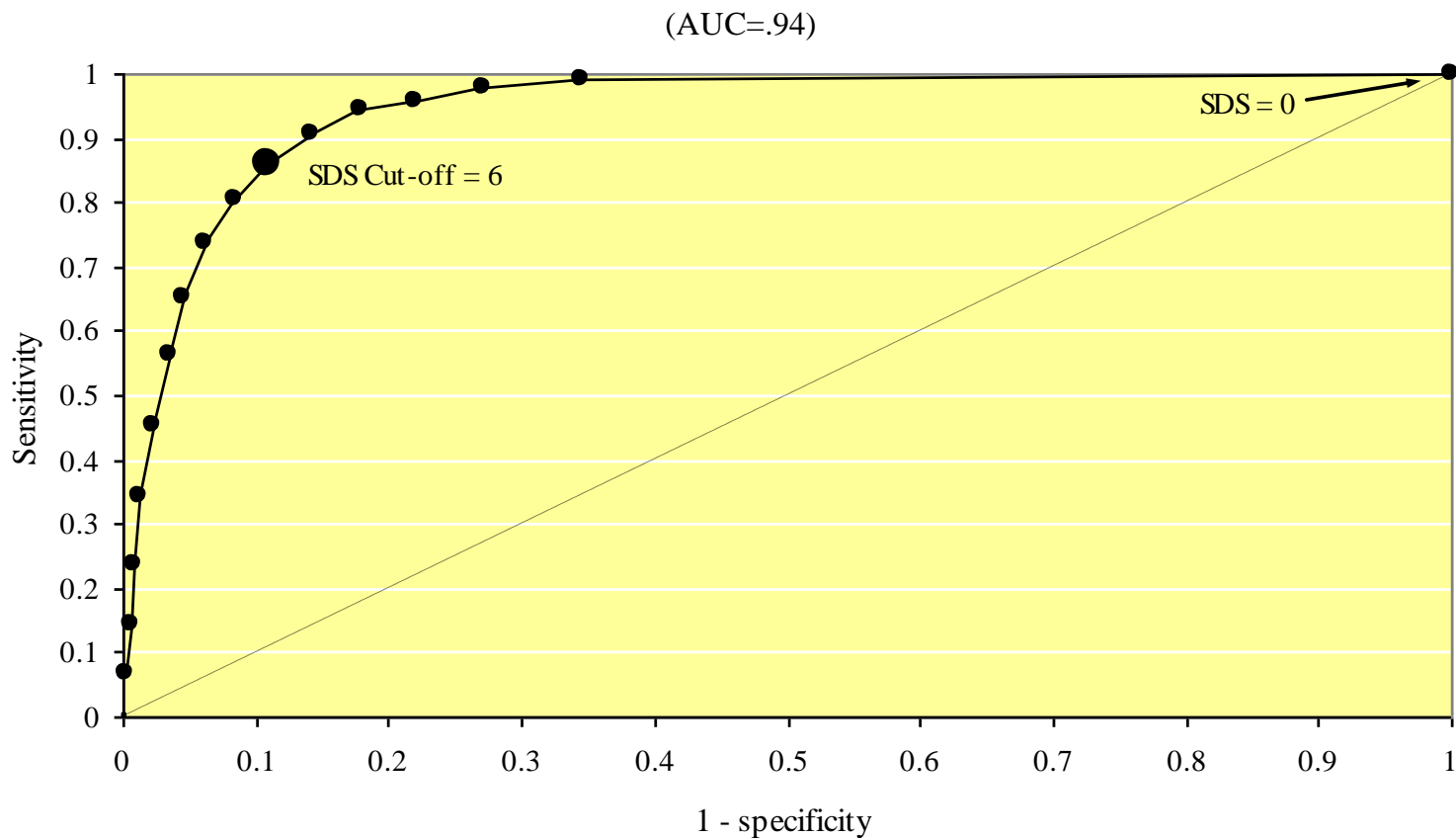
Main Findings: Reliability & Dimensionality

1. Cronbach's Coefficient Alpha confirmed that SDS items converged to measure the degree of psychological drug dependence (0.91)
2. Canonical Correlation Analysis uncovered linear combinations from the SDS and DAST (the reference standard) that were correlated along a single dimension that approximated the dependence syndrome as defined by the DSM-IV (American Psychiatric Association, 2004)
 - Psychological (e.g., five items of the SDS)
 - Interpersonal (e.g., neglected family, lost friends, complaints)
 - Employment-related (e.g., in trouble at work)
 - Physiological (e.g., withdrawal symptoms)
 - Link to crime (e.g., engaged in illegal activities to obtain drugs)



Main Findings: Optimal Cut-off Score

- Cut-off score of ≥ 6 for classification of psychological drug dependence (ROC Analysis)





Main Findings- Dimensions of Psychological Drug Dependence

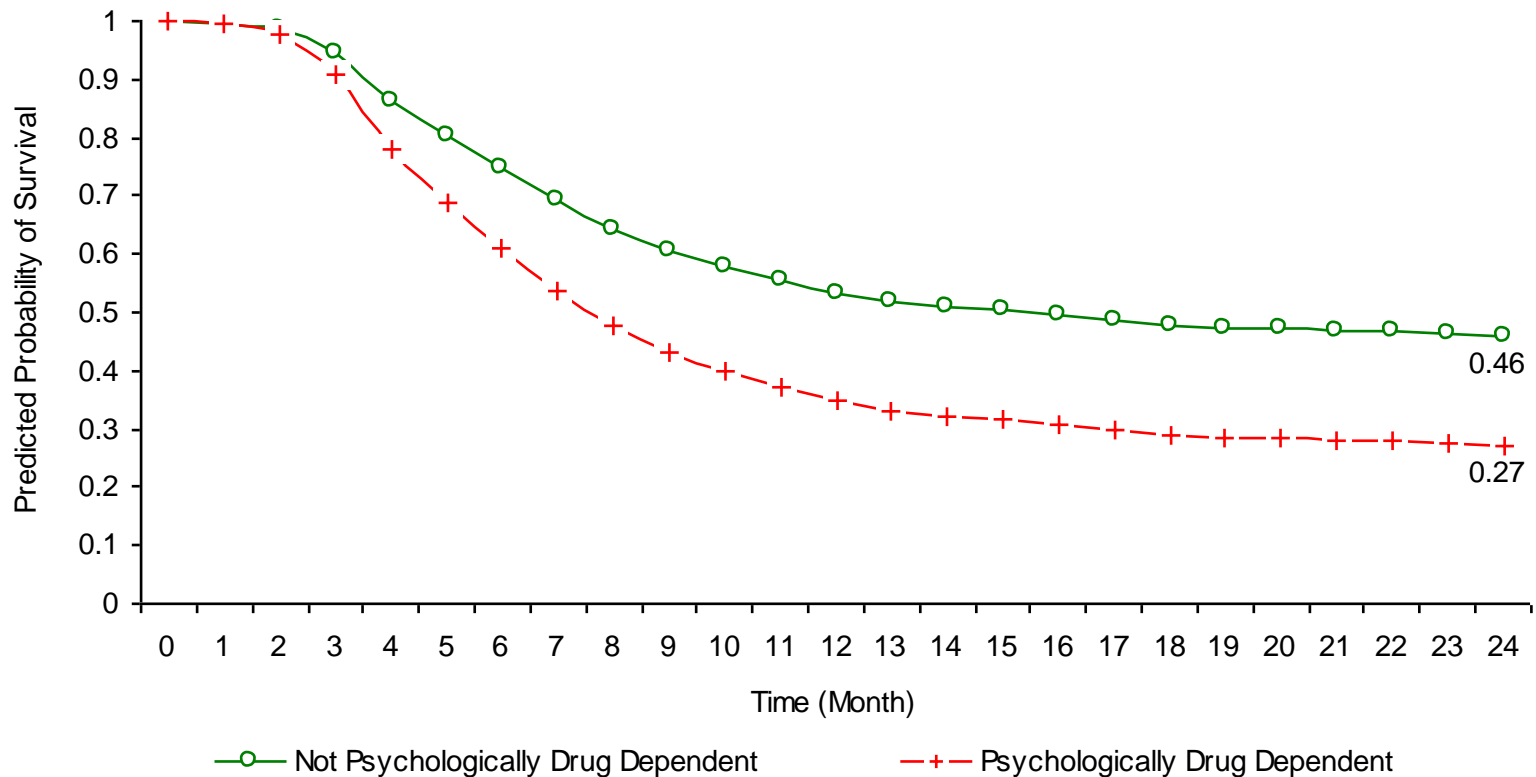
4. After adjusting for risk for re-offending and age, classification was associated with deficits within the criminogenic need areas of (Logistic Regression):
 - **Education/Employment** (e.g., concentration problems, unstable job history)
 - **Family** (e.g., spousal abuse during childhood, family members involved in crime, currently single)
 - **Social Interactions** (e.g., socially isolated, mostly criminal associates)
 - **Substance Abuse** (e.g., negatively assoc. with alcohol use, drug use associated with crime)
 - **Community Functioning** (e.g., unstable accommodation, financial problems)
 - **Personal/Emotional** (e.g., copes with stress poorly, impulsive, mental health problems)
 - **Attitude** (e.g., values substance abuse, positive rehabilitation, negative criminal justice system)

5. Classification associated with triggers of drug use that are predictive of relapse to substance abuse (Logistic Regression):
 - Because of negative affective states
 - To cope with physical discomfort
 - To manage withdrawal symptoms



Main Findings- Community Follow-up

6. SDS classification of psychological drug dependence associated with higher rates of revocation (Cox Proportional Hazards Model)

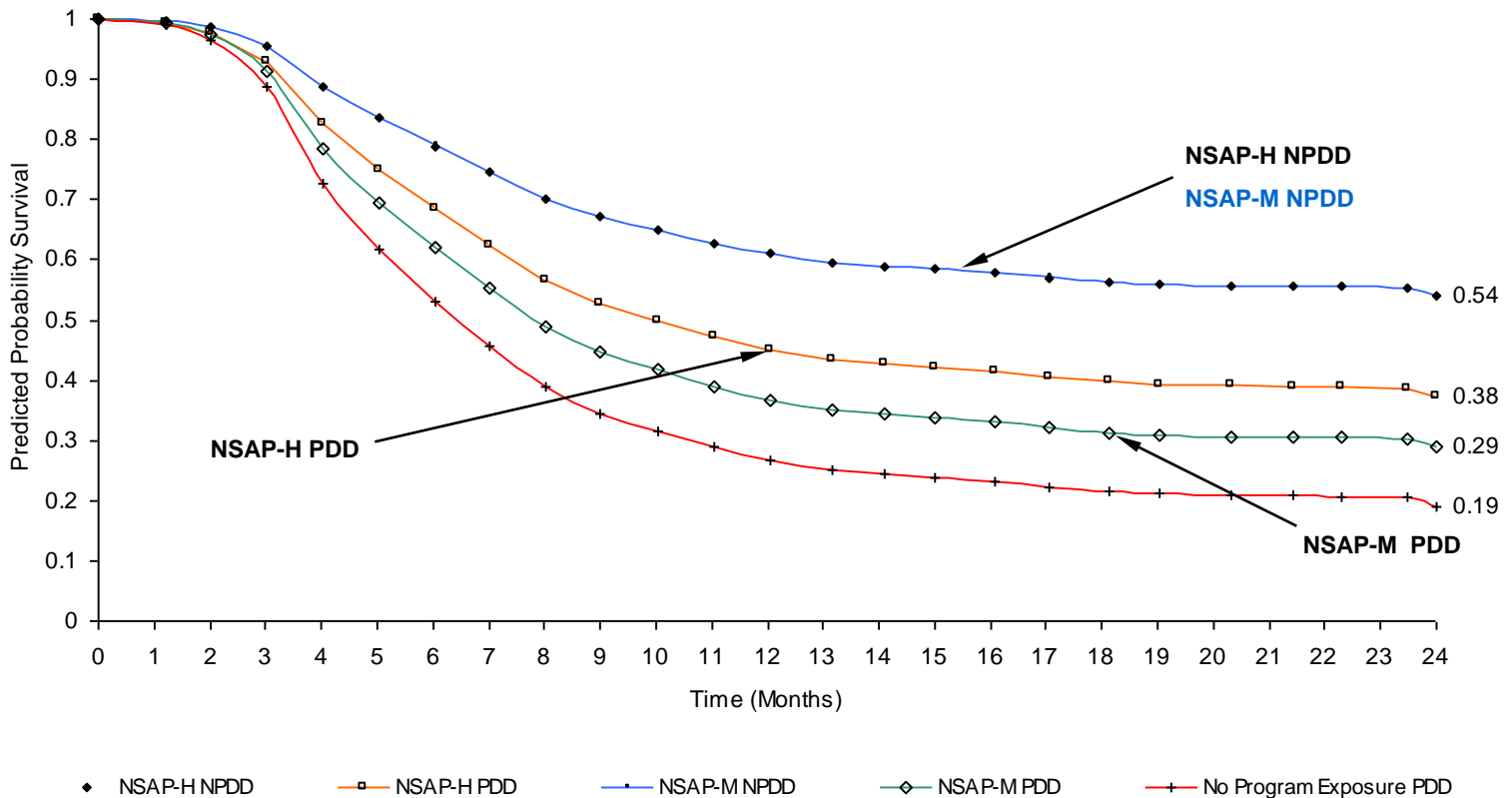


Note. The predicted probability of survival assumes an offender (>26 years of age) from the Atlantic Region who was rated high on overall need, some on the domains of Community Functioning and Associates/Social Interactions, rated none on the ADS, and rated fair risk on the SIR-R1.



Main Findings- Community Follow-up

7. High intensity more effective than moderate intensity substance abuse program for the psychologically drug dependent offender (Cox Proportional Hazards Model)

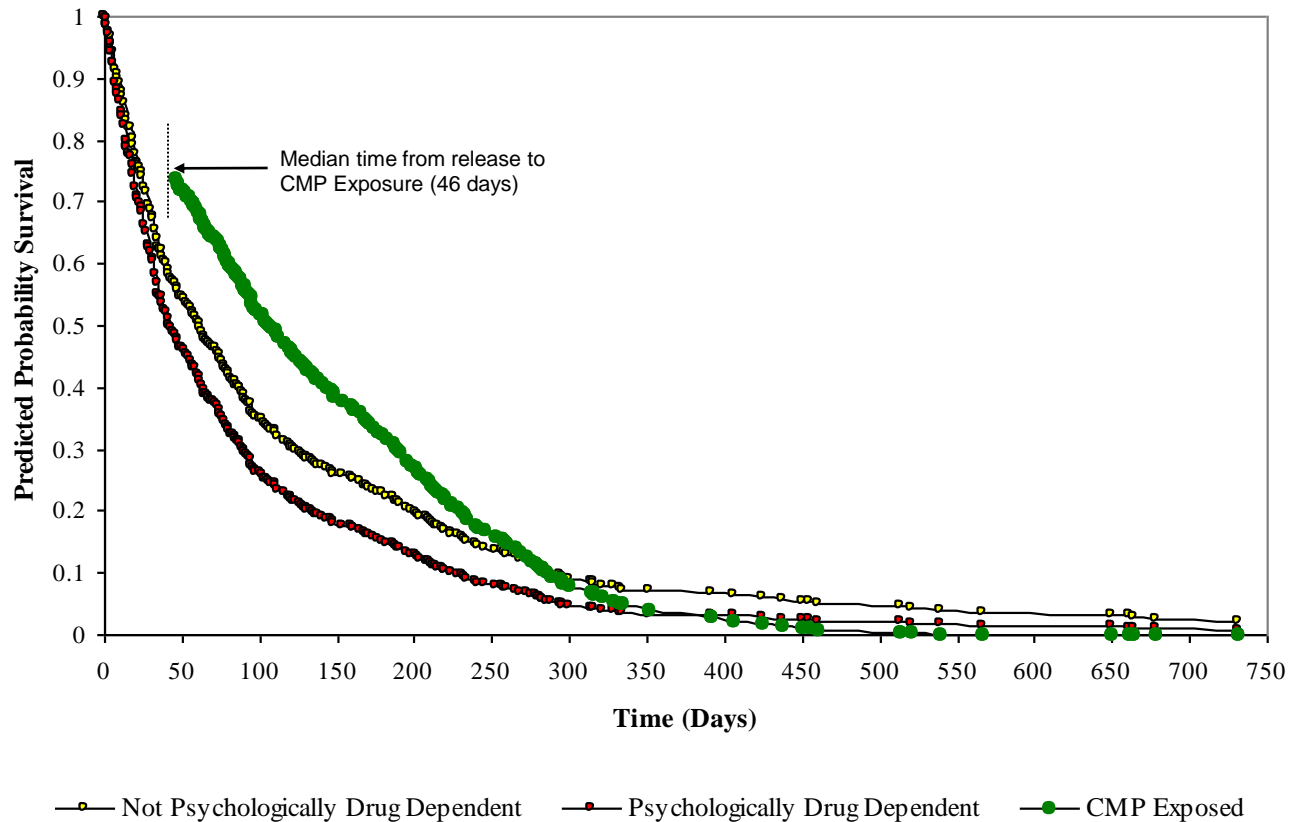


Note. Predicted probabilities assume an offender from the Atlantic Region who was at least 27 years of age at release. The offender was rated high Overall Need and rated some need on the domain of Community Functioning, with a fair risk rating on the SIR-R1. PDD= Psychologically Drug Dependent. NPDD= Not Psychologically Drug Dependent. The “no program exposure” group is comprised of offenders who should have received substance abuse programming based on the OIA rating on the Substance Abuse domain, but did not.



Main Findings- Community Follow-up

8. SDS classification of psychological drug dependence predictive of testing positive for drugs (PWP Cox Proportional Hazards Model for ordered multiple events data)



Note. All covariates in the model were set at median values. Predicted CMP-exposed probabilities assume an offender from the Ontario Region who started CMP 46 days after release from custody. The offender was rated some need on the domains of associates/social interactions and attitude, with a fair risk rating on the SIR-R1 and no negative tests since last positive result. Observations were restricted to the first stratum (number of positives ≤ 1).



1. SDS classification identified an important criminogenic need that will be useful for treatment planning
2. The dimensions of the classification uncovered social, psychological, behavioural, physiological characteristics that will be useful for client-treatment matching
3. SDS classification was predictive of post-release performance which may be useful for:
 - Pre-release decision making (e.g., correctional planning)
 - Mitigating the risk of revocation (e.g., delivering aftercare)
4. SDS classification predicted positive urinalysis results which may be useful for:
 - Allocating limited resources in the most cost effective way
 - Mitigating the risk of relapse through appropriate levels of community aftercare



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