Reassessing Risk Assessment
Taking Risk Suppression Seriously

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Overview
Background
Risk Suppression
Confronting Risk Suppression
Concluding Thoughts

Overview of Presentation

1. Background
2. What is risk suppression?
3. Why is it a problem?
4. What can be done about it?
5. An example
6. Concluding thoughts
Background of Problem

1. Risk assessment should be evidence-based
2. How to operationalize this concept? One needs
   - Data on static or dynamic attributes (e.g., Criminal history)
   - Linked data on undesirable outcomes (e.g., Rearrest)
3. Seems readily available in most jurisdictions! Where’s the problem?
   - Attributes also used by Criminal Justice System to mitigate risk
   - Results in varying levels of intervention/treatment
4. Example: Supervision Intensity and Recidivism Risk
   - Latent Risk $\rightarrow$ Screening Items $\rightarrow$ Supervision Intensity
   - Intensity $\rightarrow$ Observed Recidivism
     - Observed Recidivism $\neq$ Latent Risk
     - Observed Recidivism $=$ Suppressed Risk
Risk Suppression in the Criminal Justice System

1. **Pretrial**
   - High-risk defendants are detained (complete suppression)
   - Varying conditions of release for the rest (partial suppression)

2. **Sentencing**
   - Longer prison terms for riskier offenders

3. **In-prison**
   - Formal or informal classification/sorting of inmates

4. **Post release**
   - Varying conditions of release
   - Varying intensity of supervision

5. **Result:** Observed misconduct captures *suppressed risk*
Risk Suppression in the Criminal Justice System
Differential Supervision Intensity

What is it?
Why is it a problem?

Risk Suppressed (Observed) Risk
Unsuppressed (Latent) Risk
Risk Suppression Effect
LOW MED MAX

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Risk Suppression in the Criminal Justice System
Differential Incapacitation

What is it?
Why is it a problem?
Why is Risk Suppression a Problem?
Potential for Misclassification based on Risk

![Diagram showing the potential for misclassification due to Risk Suppression. The diagram includes axes for RISK and SCORE, with shaded regions indicating the extent of biased scoring due to Risk Suppression.]
Why is Risk Suppression a Problem?
Distorts Links between Risk and Theoretical Attributes

A

Offending Rate

B

A

C

Age

Taking Risk Suppression Seriously
Taking Risk Suppression Seriously

1. First assess the extent of risk suppression
2. It may be irrelevant
   - Nonexistent intervention
   - Random intervention
3. Typically not the case: CJS cannot be turned off
4. Estimate suppression effects
   - Random assignment
   - Regression Discontinuity Design
   - Subjective Assessment
5. Ignoring it is not a solution
Computing Latent Risk Scores

1. Let
   - \( y_i \) = suppressed risk for each individual
   - \( z_i \) = suppression effect for each individual
   - \( d_{ic} \) = category \( c \) of attribute \( k \)

2. Computation of risk scores
   - Suppressed score: \( s_c = \frac{\sum_i d_{ic}y_i}{\sum_i d_{ic}} \)
   - Unsuppressed score: \( s^*_c = \frac{\sum_i d_{ic}y_i}{\sum_i d_{ic}(1-z_i)} \)

3. Aggregate unsuppressed scores (weighted or unweighted)

4. Critical to get good estimates of \( z_i \)
### Adjusted Scoring Scheme

#### Example: Age at first arrest

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<td>1.00</td>
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Concluding Thoughts and Future Research

1. Scholarship risks seriously misinterpreting the evidence
   - Attributes may be unrelated to risk because of suppression
   - Information in attributes may be well utilized by CJS

2. Predictive efficacy is overrated if outcomes are suppressed
   - Current instruments can predict residual outcome
   - If CJS utilizes information well, predictive power of attribute will be low
   - That doesn’t mean attribute is unrelated to latent risk

3. Need new methods to ...
   - Estimate and incorporate suppression effects
   - Validate instruments using suppressed outcomes and suppression effects (augmented AUC/ROC)

4. Latent Risk Assessment instruments – the next generation ???
Thank You

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