

Latent Transition Analysis Versus Traditional Methods for Assessing Clinical Significance

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WHY?

- Prevention researchers have called for examination of the practical impact of interventions, not just statistical significance and effect sizes
- Mixture modeling can add to the benefits of established clinical significance (CS) approaches

WHAT?

- CS tells what proportion of individuals show meaningful change
- This includes improvement and deterioration

HOW?

- We contrasted two CS methods using PRIME For Life® (PFL) program evaluation data
- PFL is a motivation-enhancing, indicated prevention program for substance users

Jacobson-Truax (JT) Approach

- Established CS method
- Simpler
- Tests outcomes separately

Latent Transition Analysis (LTA)

- Increasingly popular
- Well-suited to CS
- Tests outcomes simultaneously
- Can include predictors

WHO?

- Baseline to posttest data from 2,717 individuals convicted of impaired driving or another substance-related offense
- 71% male, 78% white, $47\% \le \text{high school}$, Age M = 33 (SD = 12.6)

OUTCOME MEASURES: NUMBER OF DRINKS . . .

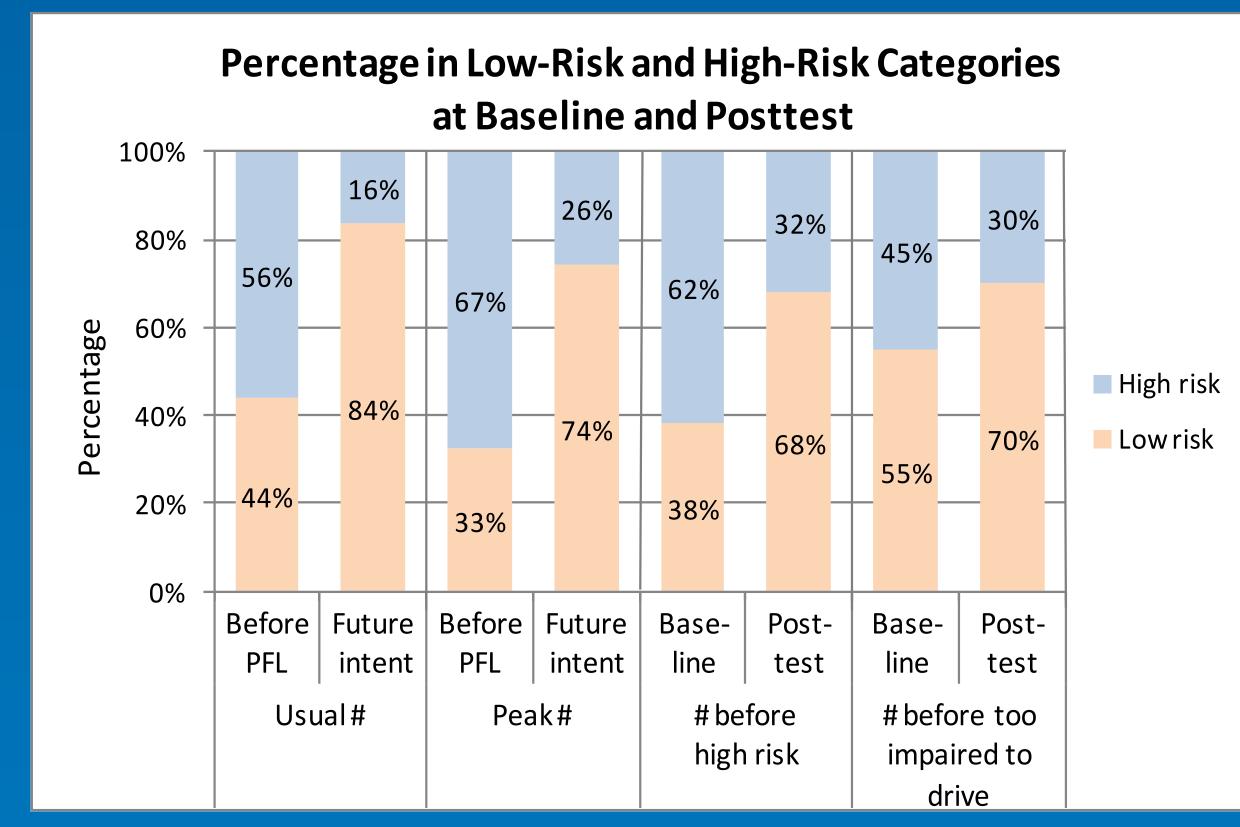
- Usual and Peak in a day (90 days prior)
- Intended Usual and Peak in a day (next 90 days)
- · Before it is high risk (likely to cause injuries or problems)
- Before too impaired to drive safely

RISK CATEGORIZATION

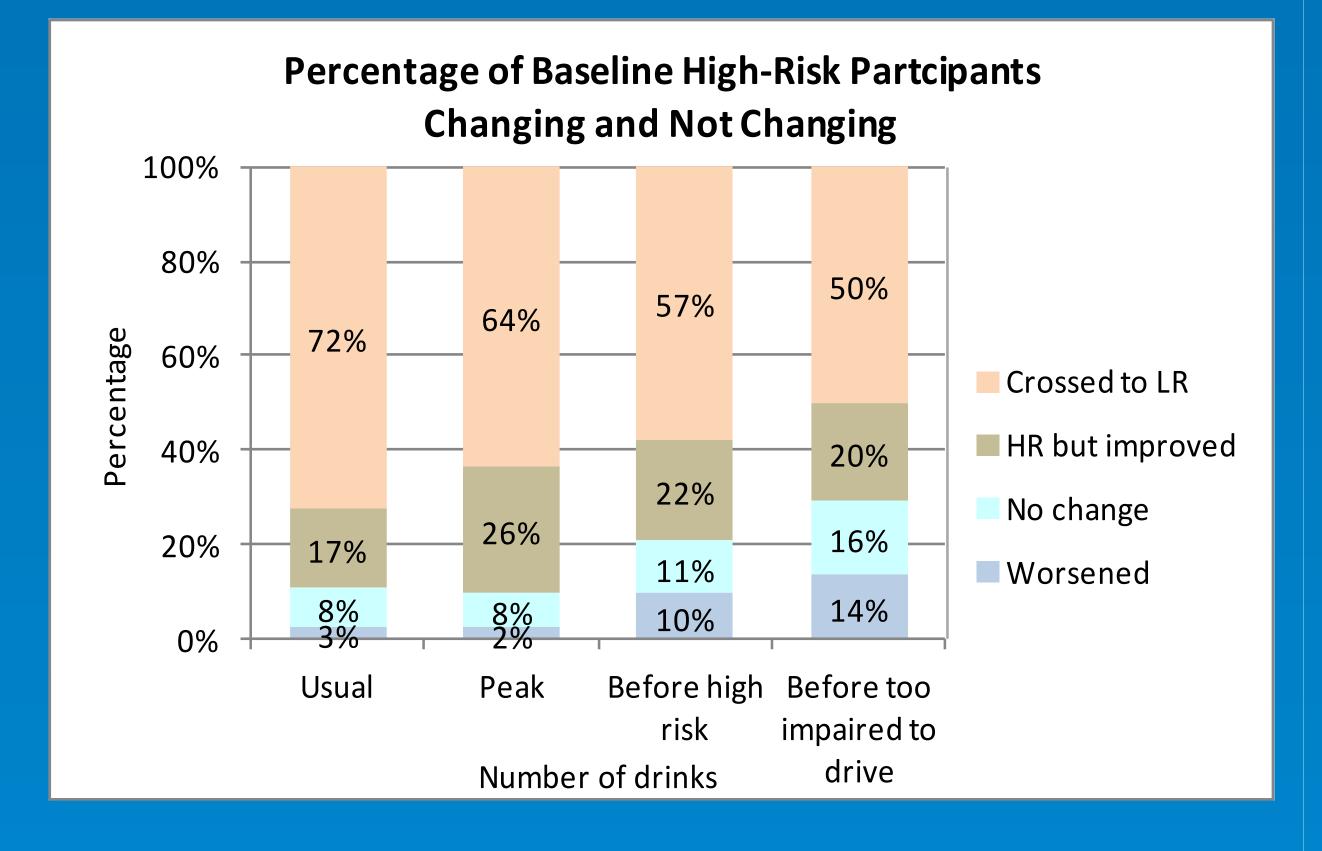
Dichotomized as Low Risk (LR, ≤ 3) versus High Risk (HR, ≥ 4) based on guidelines taught in program

FINDINGS: JACOBSON & TRUAX (JT) APPROACH

More participants were LR at posttest on each outcome.



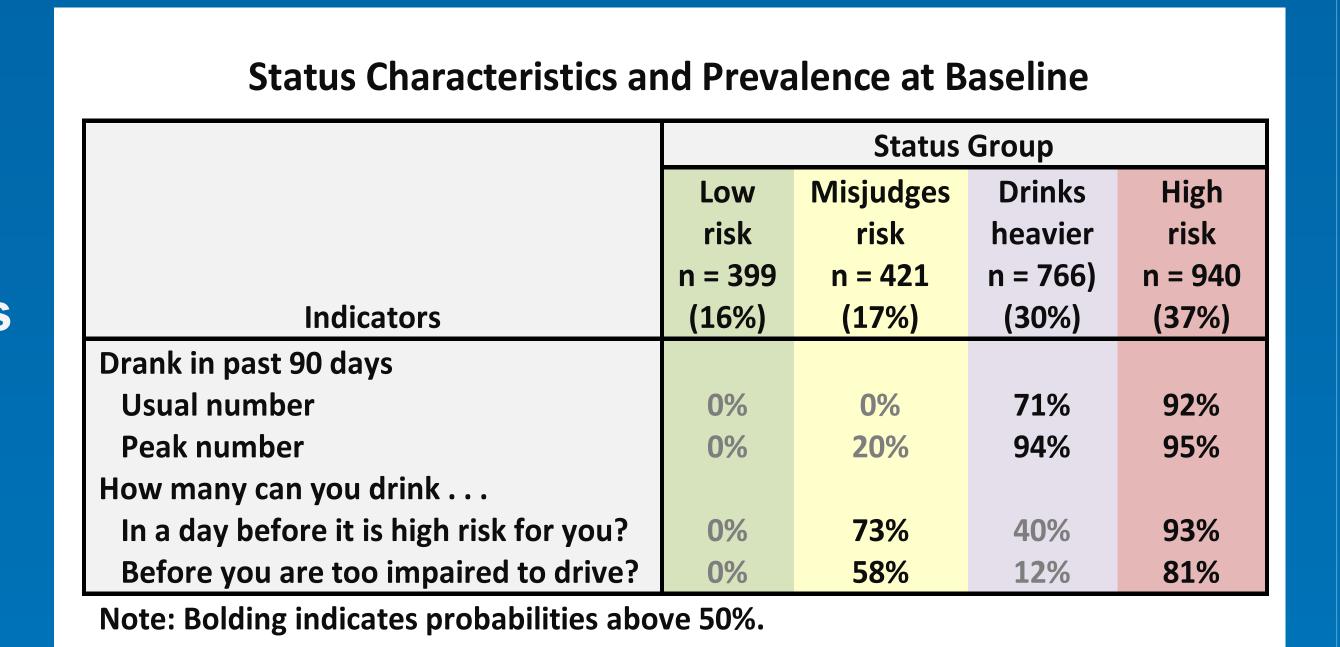
Over 70% who were HR at baseline either improved or crossed to LR on each outcome.



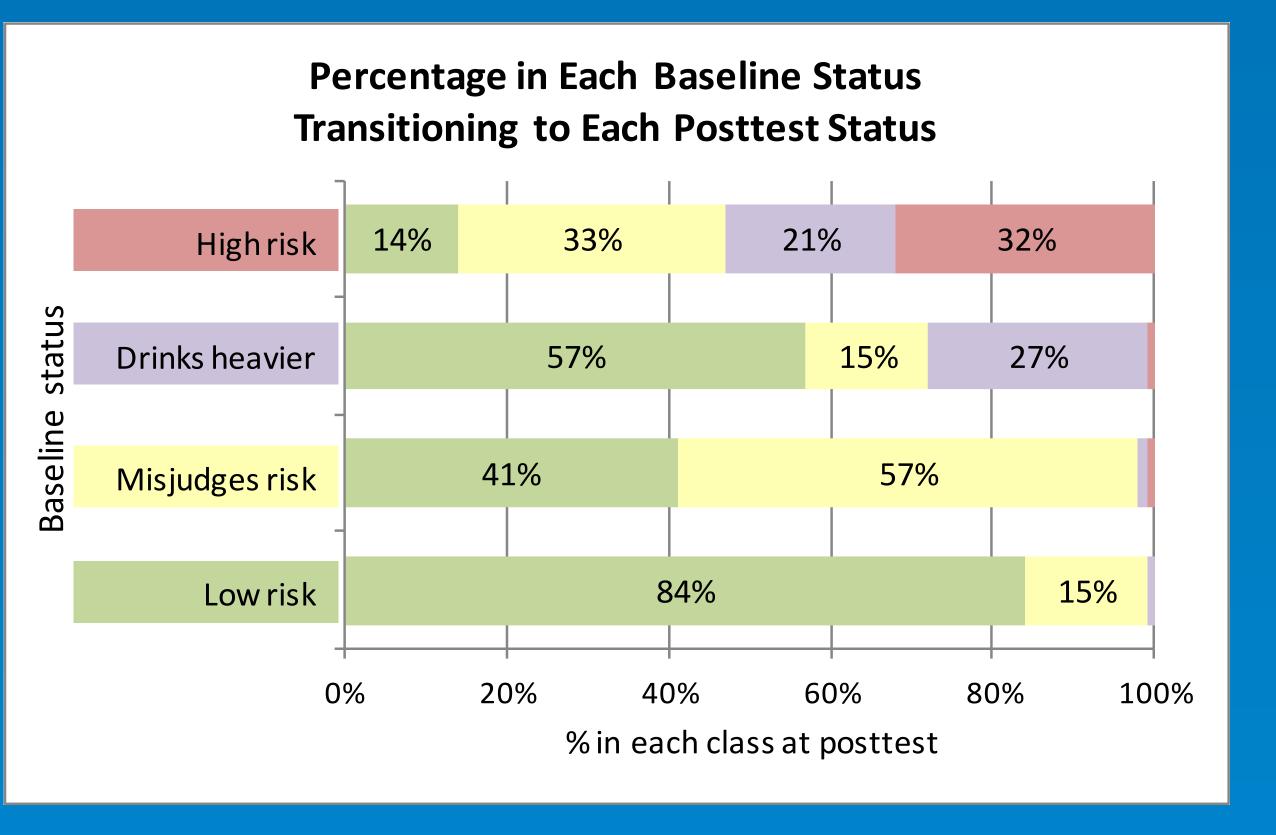
Additional finding: Most (84% or more) who were LR at baseline remained so at posttest on all outcomes.

FINDINGS: LATENT TRANSITION ANALYSIS

Four status
groups were
similar in
characteristics
across the
timepoints
(baseline and
posttest).



Transition probabilities from each baseline status group typically showed movement to a less risk-prone group.



Additional finding: Having more alcohol/drug dependence indicators significantly predicted being in a more severe baseline status group, but not transition probabilities.

DISCUSSION

- Both approaches showed clinically significant improvements LTA is useful in examining multiple outcomes, predicting
- The JT approach is simpler and answers basic questions
- LTA is useful in examining multiple outcomes, predicting improvement /deterioration, or identifying people unlikely to benefit