# Lesson 10

Thursday February 29, 2024

# Comparing Self-Reported Delinquency to Arrests

TABLE B-25 Estimation of Probability of Arrest per Crime (q) from Data on Offenders and Arrestees in National Youth Survey

| Number of Self-Reported Offenses in 1976 and 1978 | Midpoint Number of Offenses | Number of Offenders[a] | Fraction Arrested[a] | Probability of Arrest per Crime (q)[b] | Standard Deviation of q Estimate[c] |
|---|---|---|---|---|---|
| 1-2 | 1.5 | 149 | .0067 | .004479 | .004467 |
| 3-5 | 4 | 151 | .0199 | .005004 | .002871 |
| 6-10 | 8 | 181 | .0110 | .001388 | .000978 |
| 11-20 | 15 | 207 | .0290 | .001959 | .000793 |
| 21-50 | 35 | 233 | .0300 | .000871 | .000327 |
| 51-100 | 75 | 131 | .0382 | .000519 | .000230 |
| 101-200 | 150 | 109 | .0734 | .000508 | .000176 |
| 201+ | 250 | 90 | .1889 | .000837 | .000193 |

[a] Dunford and Elliott (1984:Table 7).

[b] If q is the probability of arrest per crime and $p = 1 - q$ is the probability of not being arrested for a crime, then the probability of no arrests for persons committing n crimes is $p^n$ and the fraction ever arrested is just $1 - p^n$. The midpoint value for the range of crimes committed is used for n to estimate q. The results, however, are roughly comparable within the entire range. For the 11-20 group, for example, $q = .002670$ for $n = 11$ and $q = .001470$ for $n = 20$, compared with the midpoint value of $q = .001959$ for $n = 15$.

[c] The standard deviation for the estimate of q is estimated from:

Source: Blumstein, Alfred, Jacqueline Cohen, Jeffrey A. Roth, and Christy A. Visher (editors) (1986). Criminal careers and "career criminals." (Volume 1). Washington, DC: National Academy Press.

# Pathways to Desistance Self-Reported Offending Data

Number of Self-Reported Offenses in Prebaseline Year

| *Male Distributions* | | | | | *Female Distributions* | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Philadelphia (n = 600, missing 5)* | | *Phoenix (n = 561, missing 4)* | | | *Philadelphia (n = 94, missing 1)* | | *Phoenix (n = 88, missing 1)* | |
| *No. of Offenses* | n | % | n | % | *No. of Offenses* | n | % | n | % |
| 0 | 63 | 10.5 | 31 | 5.5 | 0 | 13 | 13.8 | 8 | 9.1 |
| 1 | 38 | 6.3 | 41 | 7.3 | 1 | 6 | 6.4 | 6 | 6.8 |
| 2 | 32 | 5.3 | 28 | 5.0 | 2 | 8 | 8.5 | 10 | 11.4 |
| 3 | 35 | 5.8 | 32 | 5.7 | 3 | 9 | 9.6 | 6 | 6.8 |
| 4 | 22 | 3.7 | 20 | 3.6 | 4 | 8 | 8.5 | 3 | 3.4 |
| 5 | 21 | 3.5 | 26 | 4.6 | 5 | 7 | 7.5 | 3 | 3.4 |
| 6 | 15 | 2.5 | 13 | 2.3 | 6 | 6 | 6.4 | 2 | 2.3 |
| 7 | 13 | 2.2 | 15 | 2.7 | 7 | 2 | 2.1 | 1 | 1.1 |
| 8 | 15 | 2.5 | 14 | 2.5 | 8 | 0 | 0.0 | 1 | 1.1 |
| 9 | 10 | 1.7 | 12 | 2.1 | 9 | 5 | 5.3 | 1 | 1.1 |
| 10 to 14 | 41 | 6.8 | 29 | 5.2 | 10 to 14 | 5 | 5.3 | 6 | 6.8 |
| 15 to 19 | 25 | 4.2 | 32 | 5.7 | 15 to 19 | 4 | 4.3 | 2 | 2.3 |
| 20 to 29 | 22 | 3.7 | 32 | 5.7 | 20 to 29 | 4 | 4.3 | 10 | 11.4 |
| 30 to 39 | 19 | 3.2 | 32 | 5.7 | 30 to 39 | 4 | 4.3 | 4 | 4.6 |
| 40 to 49 | 12 | 2.0 | 21 | 3.7 | 40 to 49 | 1 | 1.1 | 1 | 1.1 |
| 50 to 74 | 24 | 4.0 | 27 | 4.8 | 50+ | 12 | 12.8 | 24 | 27.8 |
| 75 to 99 | 17 | 2.8 | 20 | 3.6 | | | | | |
| 100 to 199 | 32 | 5.3 | 50 | 8.9 | | | | | |
| 200 to 299 | 20 | 3.3 | 26 | 4.6 | | | | | |
| 300 to 399 | 22 | 3.7 | 15 | 2.7 | | | | | |
| 400 to 499 | 15 | 2.5 | 9 | 1.6 | | | | | |
| 500 to 749 | 31 | 5.2 | 12 | 2.1 | | | | | |
| 750 to 999 | 13 | 2.2 | 5 | 0.9 | | | | | |
| 1000+ | 43 | 7.2 | 19 | 3.4 | | | | | |

NOTE: Percentages may not total 100 due to rounding.

# Pathways to Desistance Official Record (OR) Data

Number of Arrests Resulting in Referral in Prebaseline Year

| *Male Distributions* | | | | | *Female Distributions* | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Philadelphia (n = 605)* | | *Phoenix (n = 565)* | | | *Philadelphia (n = 95)* | | *Phoenix (n = 89)* | |
| *No. of Priors* | n | % | n | % | *No. of Priors* | n | % | n | % |
| 0 | 300 | 49.6 | 291 | 51.5 | 0 | 58 | 61.1 | 49 | 55.1 |
| 1 | 172 | 28.4 | 115 | 20.4 | 1 | 27 | 28.4 | 26 | 29.2 |
| 2 | 84 | 13.9 | 72 | 12.7 | 2 | 9 | 9.5 | 7 | 7.9 |
| 3 | 30 | 5.0 | 43 | 7.6 | 3 | 0 | 0.0 | 5 | 5.6 |
| 4 | 15 | 2.5 | 24 | 4.3 | 4 | 0 | 0.0 | 2 | 2.3 |
| 5 | 2 | 0.3 | 9 | 1.6 | 5 | 1 | 1.1 | 0 | 0.0 |
| 6 | 1 | 0.2 | 5 | 0.9 | | | | | |
| 7 | 1 | 0.2 | 3 | 0.5 | | | | | |
| 8 | 0 | 0.0 | 2 | 0.4 | | | | | |
| 9 | 0 | 0.0 | 1 | 0.2 | | | | | |

# Connecting OR and SRO - Pathways Data

Arrest Activity After Conditioning on Self-Reported Offending Frequency Deciles
($N$ = 1,354 – 11, Missing Cases = 1,343)

| | *Philadelphia and Phoenix Combined* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Self-Reported Offending Decile* | n | *Self-Reported Offense Range* | *Median No. of Offenses* | *Mean No. of Arrests* | *% Arrested at Least Once* | *Lower 95% Bound* | *Upper 95% Bound* | *Mean Probability of Arrest per Offense* |
| $D_1$ | 115 | 0 | 0.0 | 0.461 | 33.0 | 24.3 | 41.8 | — |
| $D_2$ | 169 | 1 to 2 | 1.0 | 0.438 | 29.6 | 22.6 | 36.5 | .3313 |
| $D_3$ | 135 | 3 to 4 | 3.0 | 0.674 | 40.0 | 31.6 | 48.4 | .2025 |
| $D_4$ | 124 | 5 to 7 | 6.0 | 0.927 | 50.0 | 41.1 | 58.9 | .1656 |
| $D_5$ | 119 | 8 to 13 | 10.0 | 0.815 | 44.5 | 35.5 | 53.6 | .0812 |
| $D_6$ | 141 | 14 to 27 | 18.0 | 0.943 | 53.9 | 45.6 | 62.2 | .0522 |
| $D_7$ | 138 | 28 to 61 | 39.5 | 1.196 | 63.0 | 54.9 | 71.2 | .0306 |
| $D_8$ | 134 | 62 to 165 | 98.0 | 1.284 | 60.4 | 52.1 | 68.8 | .0138 |
| $D_9$ | 134 | 166 to 462 | 282.5 | 1.179 | 51.5 | 42.9 | 60.1 | .0043 |
| $D_{10}$ | 134 | 469 to 3,493 | 1,002.5 | 1.254 | 61.9 | 53.6 | 70.3 | .0014 |

NOTE: Lower 95% and Upper 95% bounds provide the 95% Confidence Interval for % Arrested at Least Once. The probability of arrest per offense is given by the number of arrests in the year preceding the baseline interview divided by the number of self-reported offenses in the year preceding the baseline interview. The average of this quantity for each group is presented as the Mean Probability of Arrest per Offense.

# Connecting OR and SRO - Pathways Data

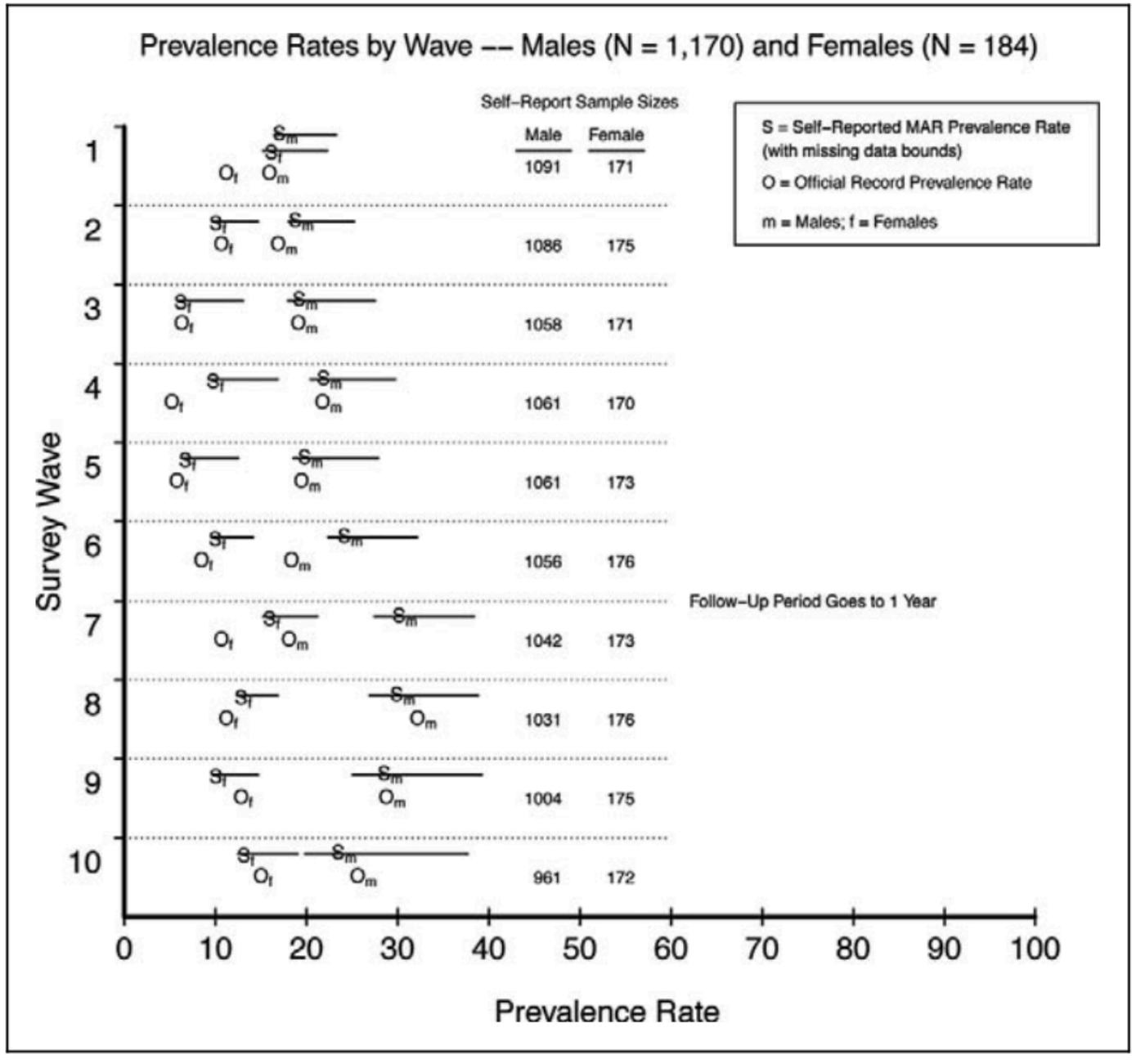


**Figure 2.** Prevalence rates by pathways gender groups (Male, $N = 1{,}170$; Females, $N = 184$).

# Connecting OR and SRO - Conceptual

| | | Offend at Least Once (SRO) | | |
|---|---|---|---|---|
| | | No | Yes | Total |
| Offend at Least Once (OR) | No | Hit | Miss | ∑ |
| | Yes | Miss | Hit | ∑ |
| | Total | ∑ | ∑ | ∑∑ |

Note: If cases are randomly scattered around the table the odds ratio will be 1. As hits increase and misses decrease, the correspondence odds ratio goes up.

# Connecting OR and SRO - Pathways Data

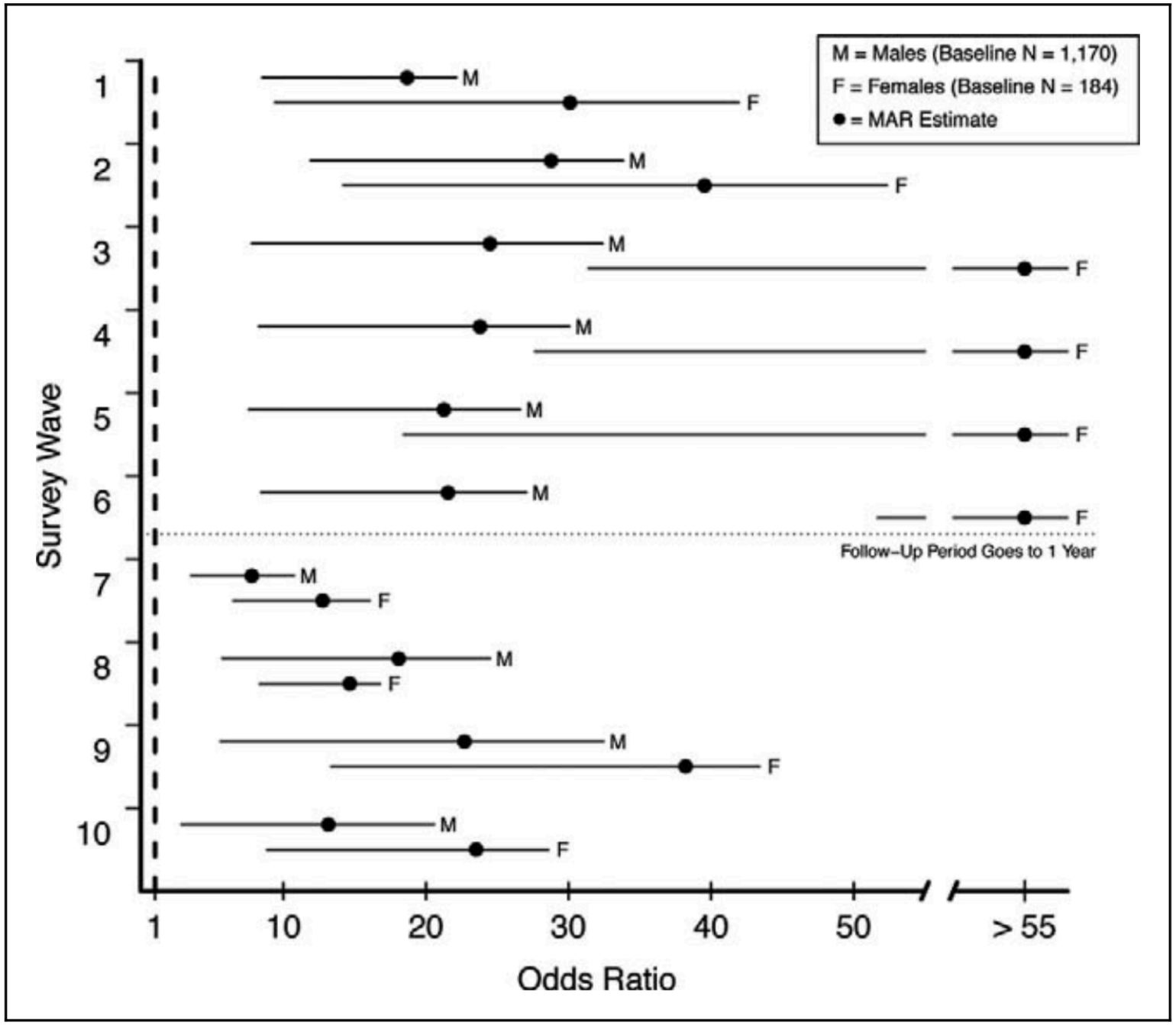


**Figure 5.** Correspondence odds ratios by pathways gender groups.