Searching for the Schizotypal Taxonomy

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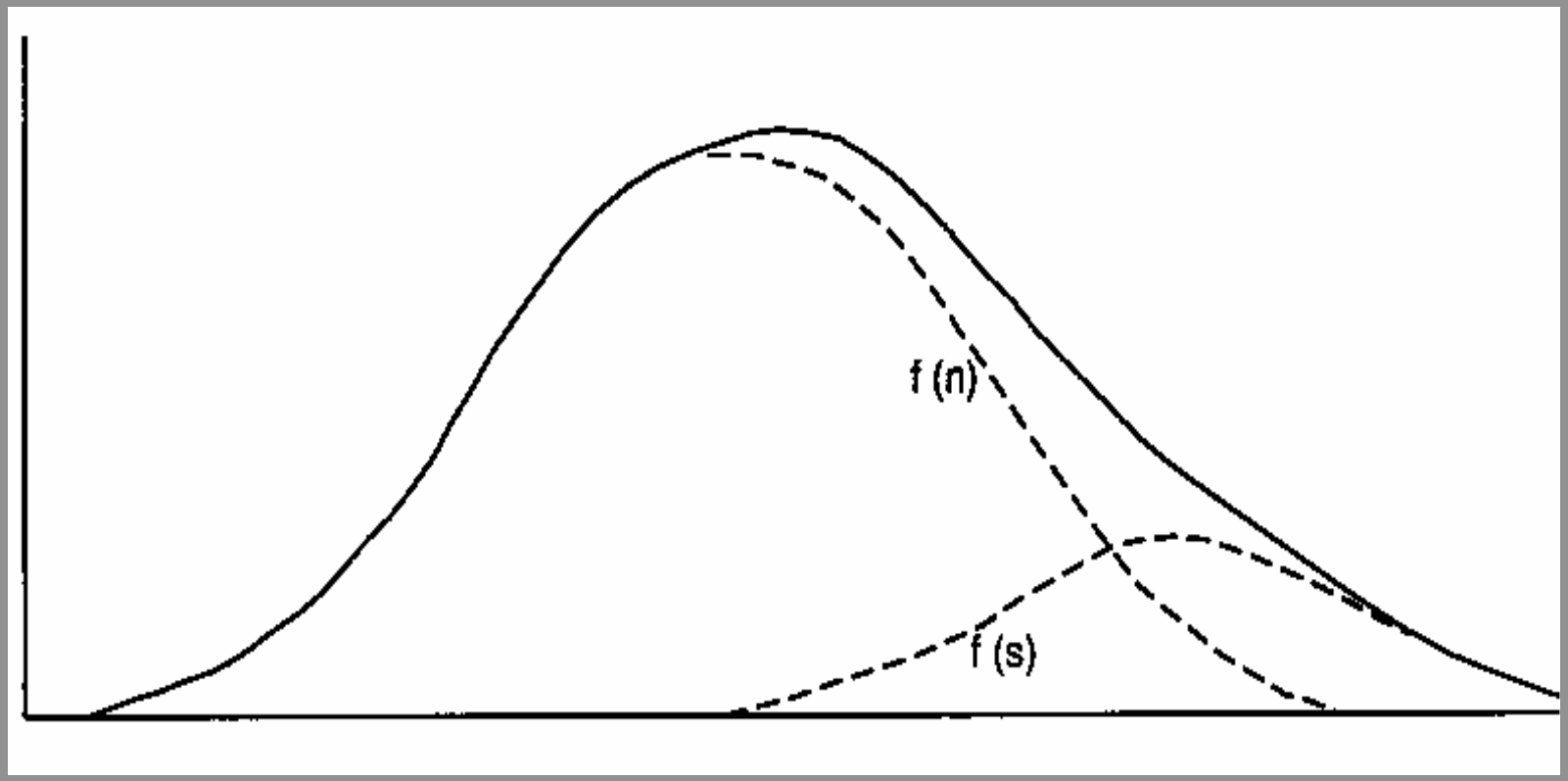
Meehl's Schizotypy

- Schizotaxia, Schizotypy, Schizophrenia
- A Taxonic Theory
- Difference in Kind, Not Just Degree
- Detecting the Taxon

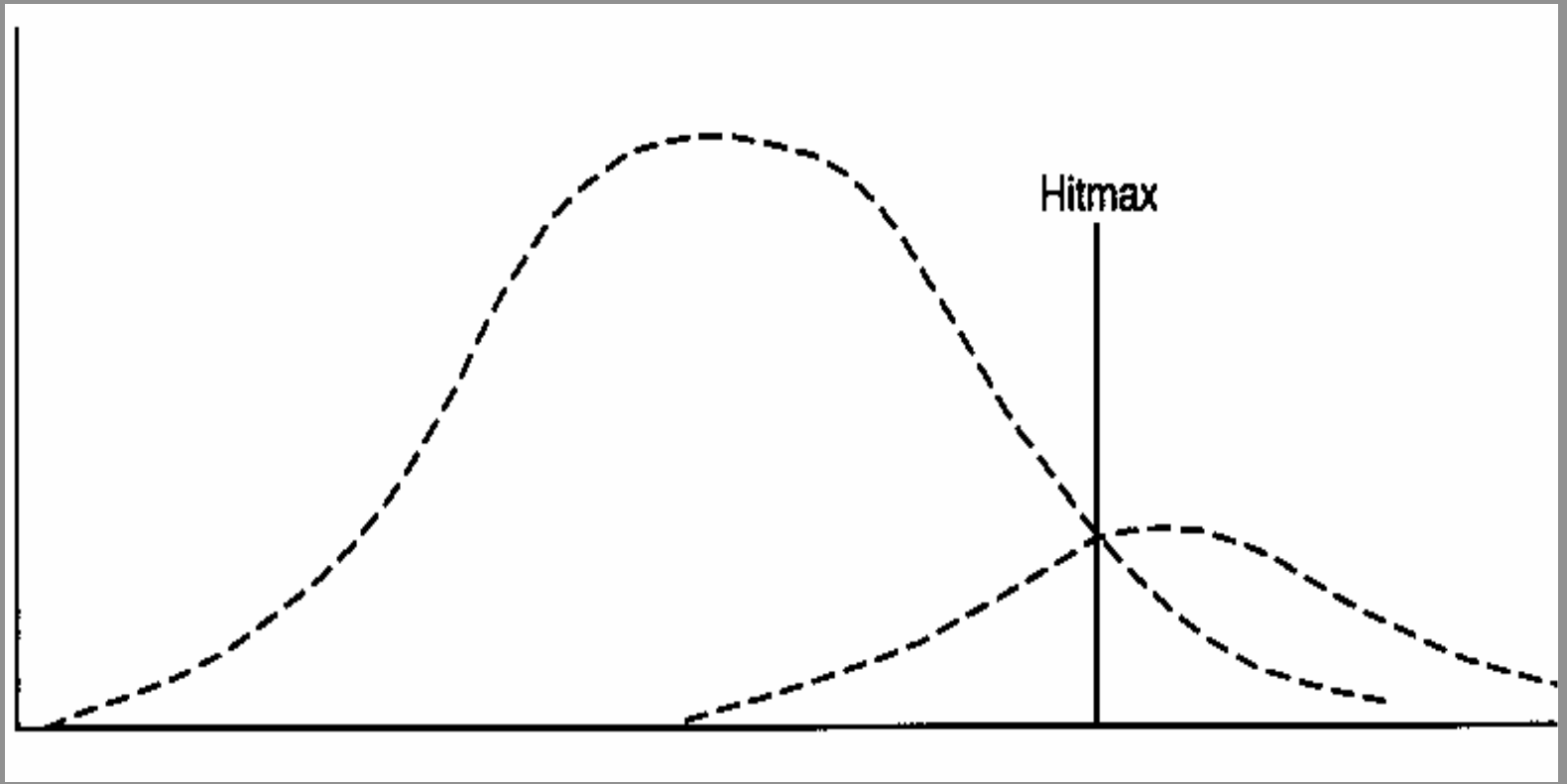
Taxometric Search

- Meehl and Colleagues
- Based on Expected Mathematical Relationships
- In this Study
  - MAMBAC
  - MAXCOV
  - MAXSLOPE

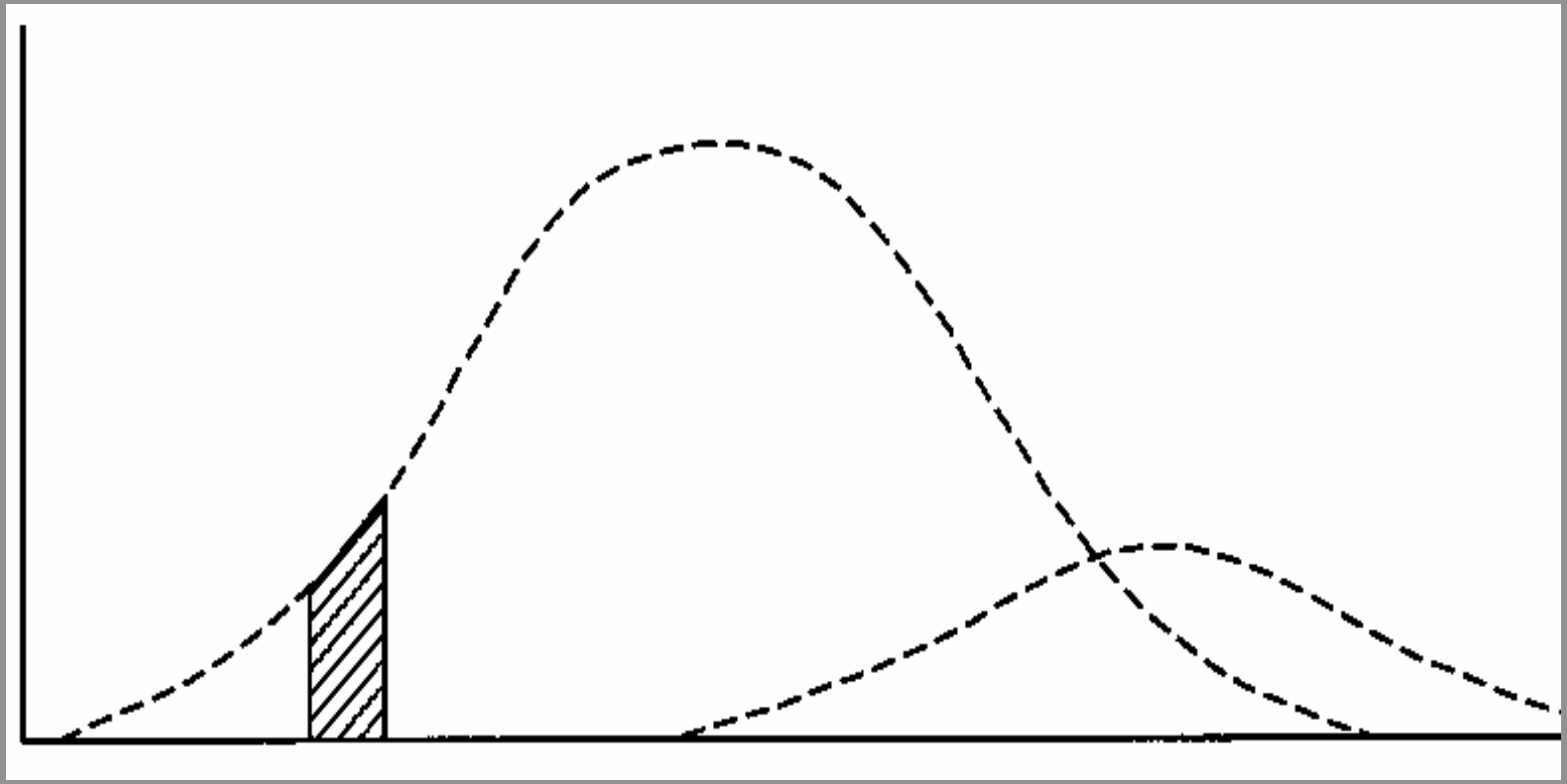
Taxon Search Logic #1



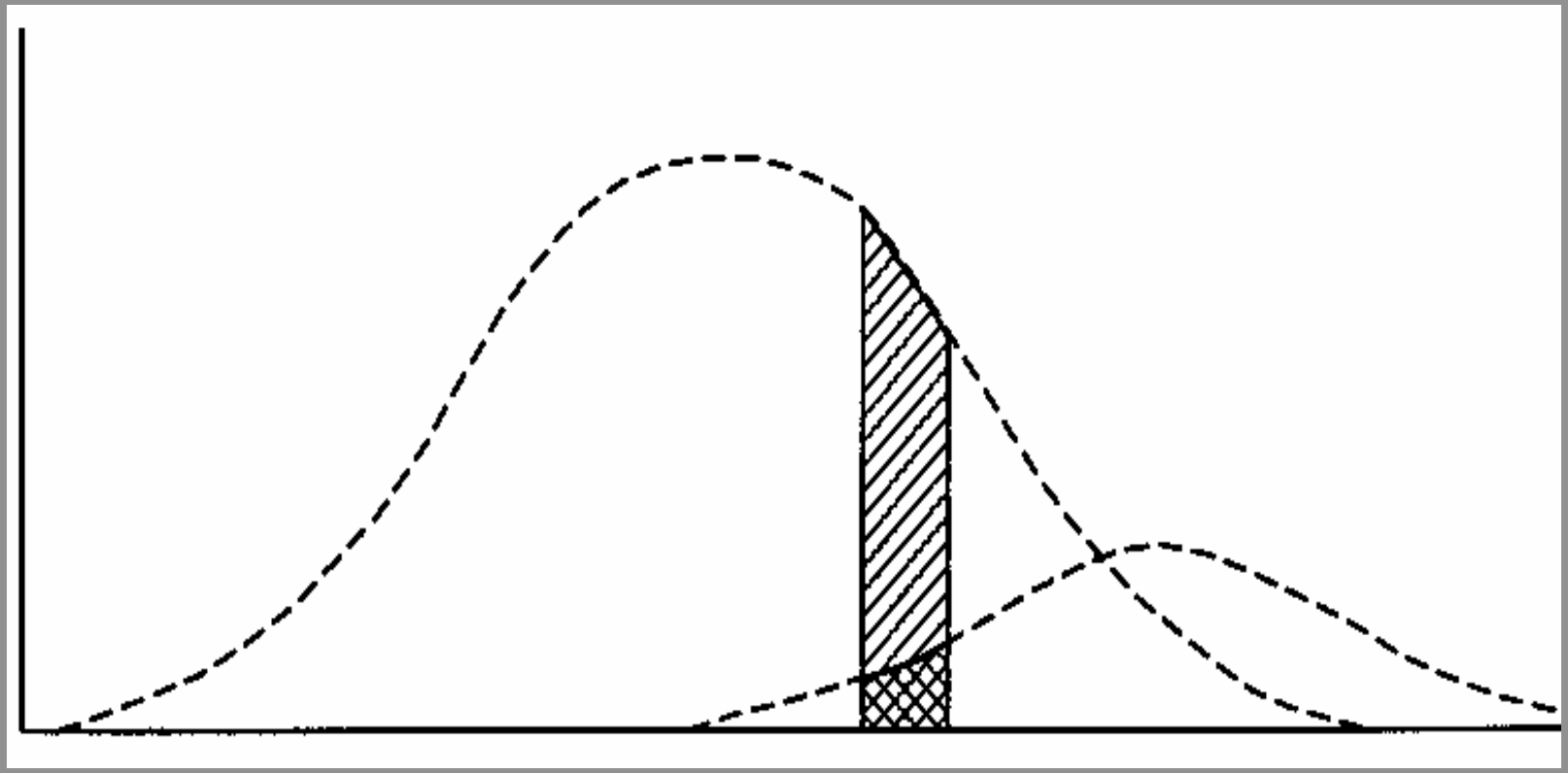
Taxon Search Logic #2



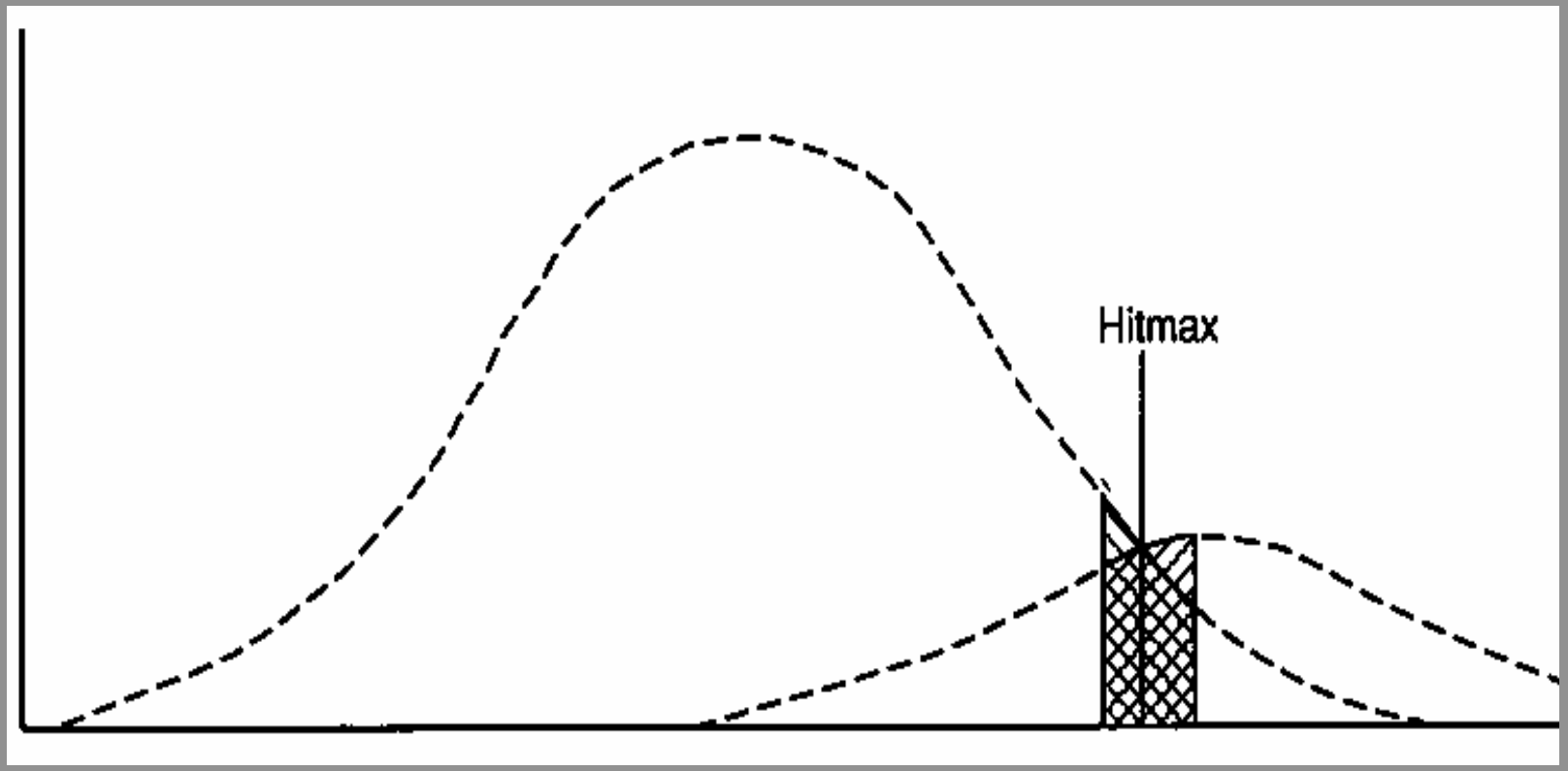
Taxon Search Logic #3



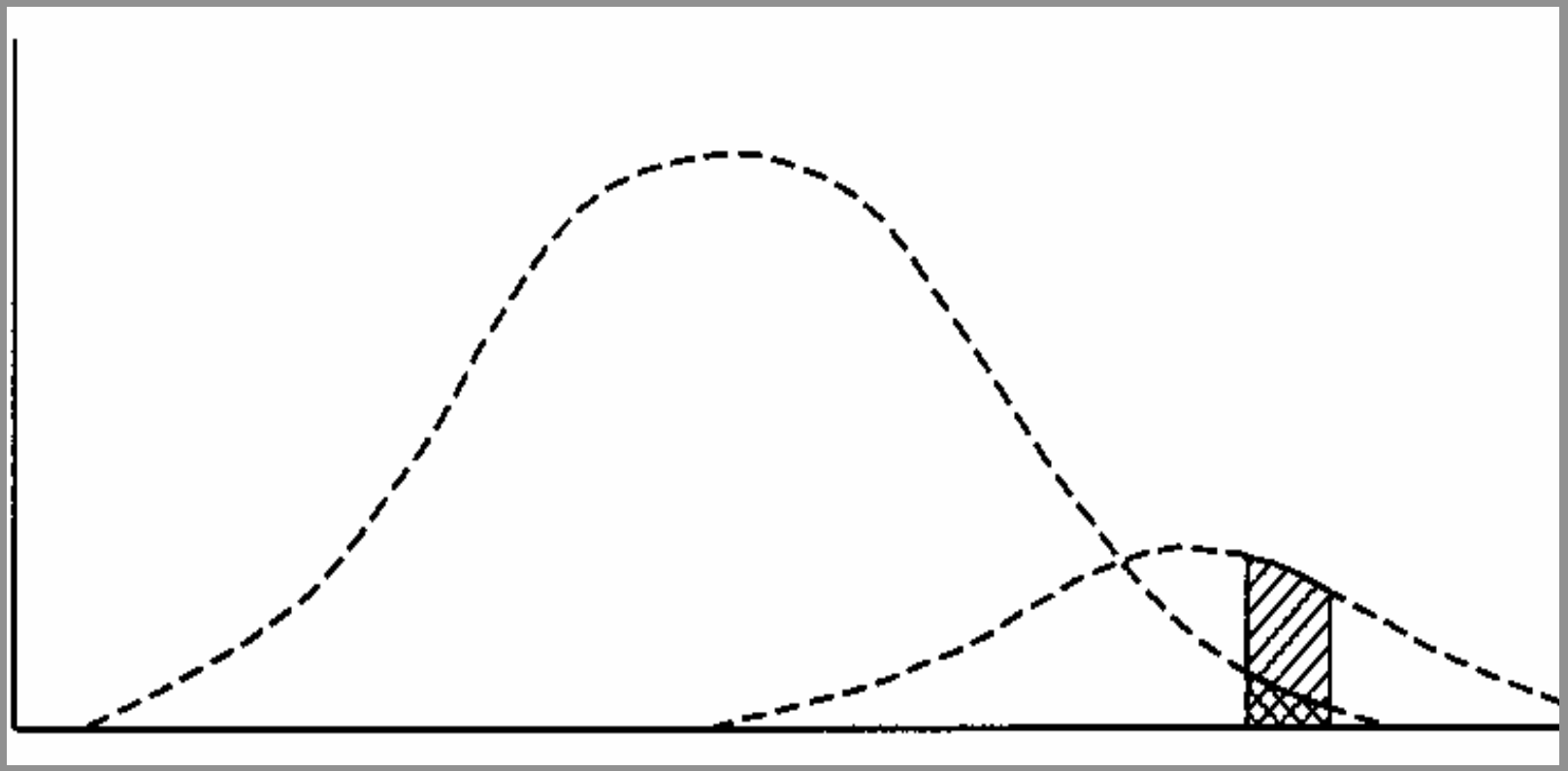
Taxon Search Logic #4



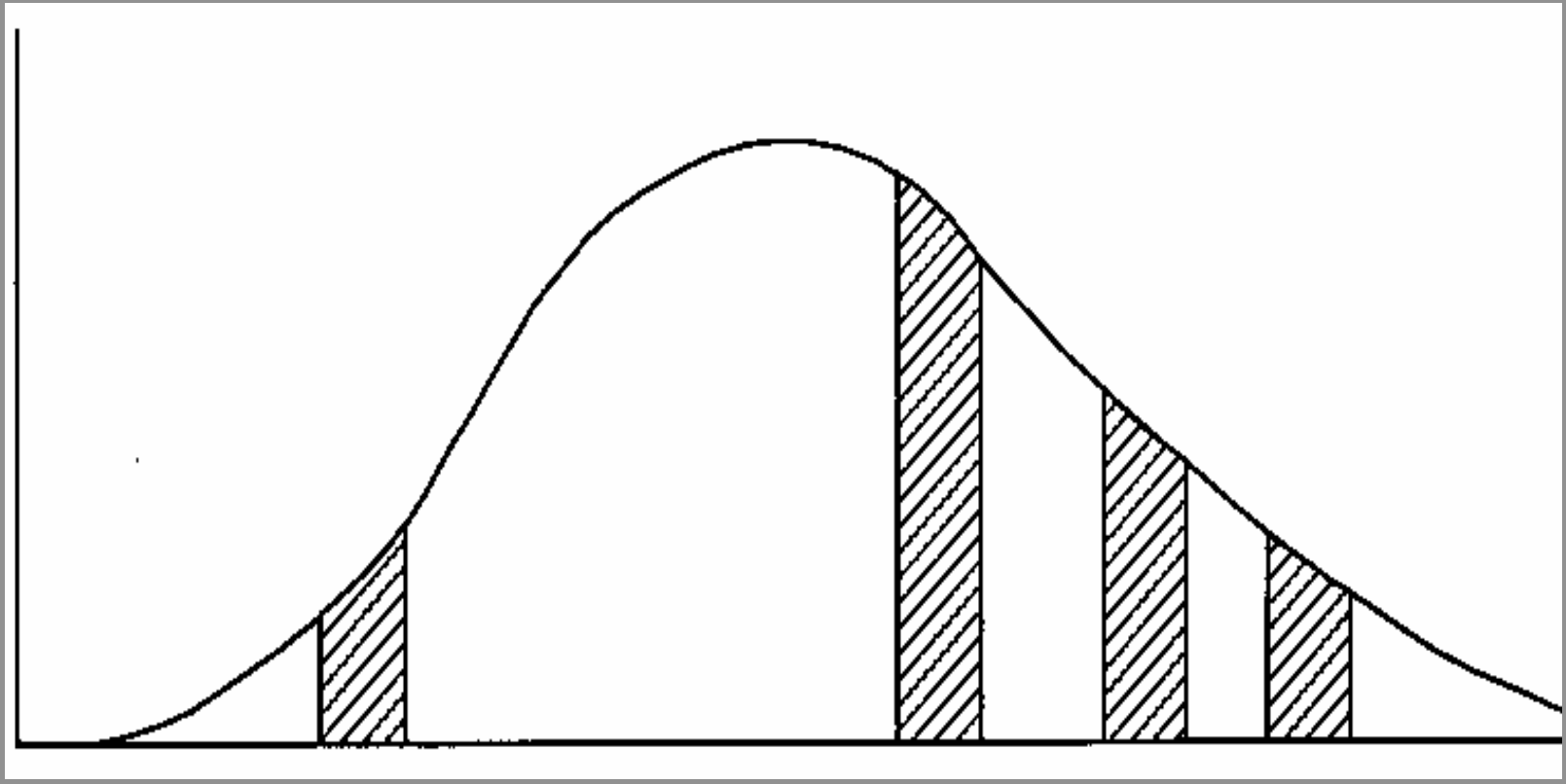
Taxon Search Logic #5



Taxon Search Logic #6



Taxon Search Logic #7



Sample and Measures

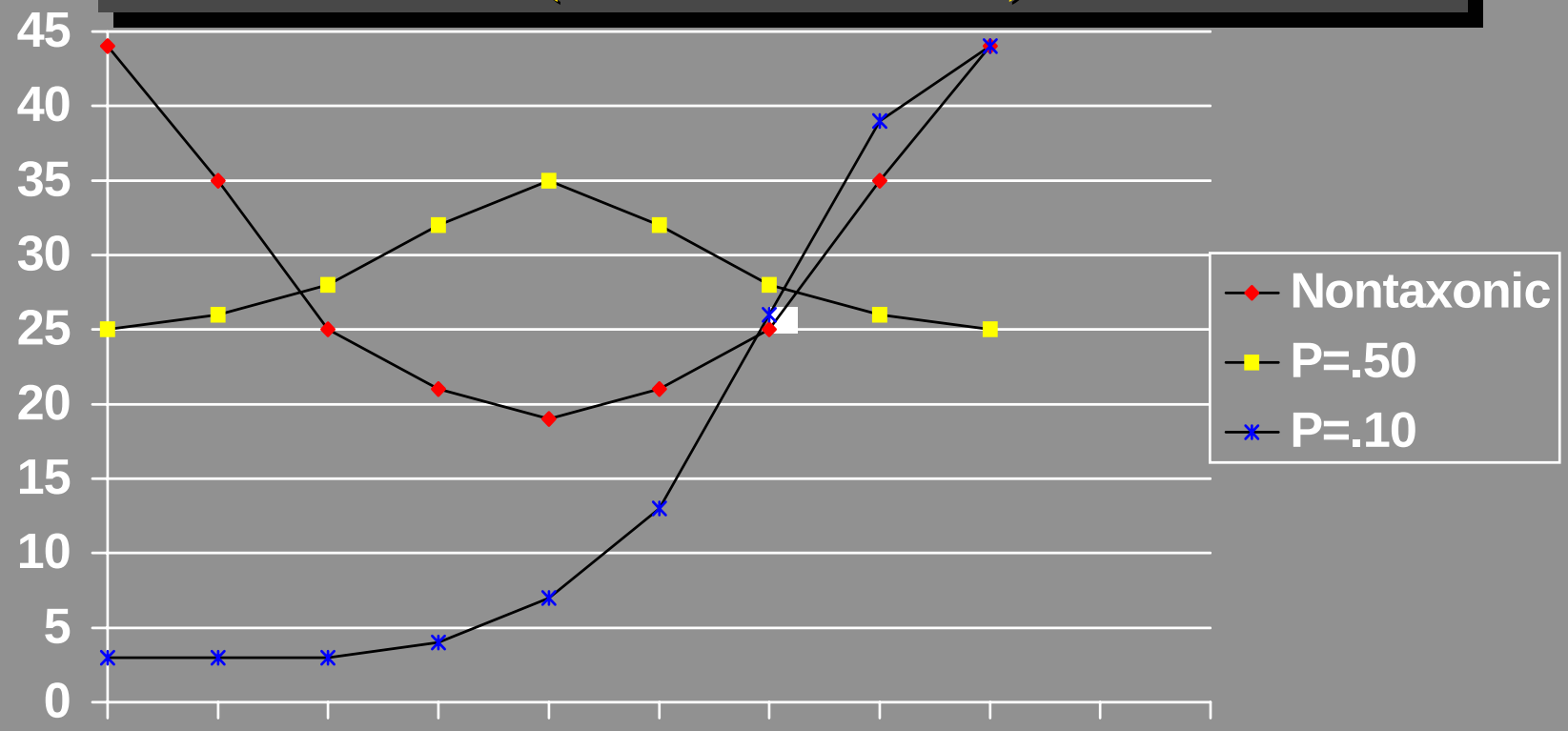
- 5255 Subjects
  - 2752 Males
  - 2503 Females
- Completed Protocols and Low Infrequency Scores
- Perceptual Aberration
- Magical Ideation
- Cognitive Slippage
- Infrequency Scale

MAMBAC

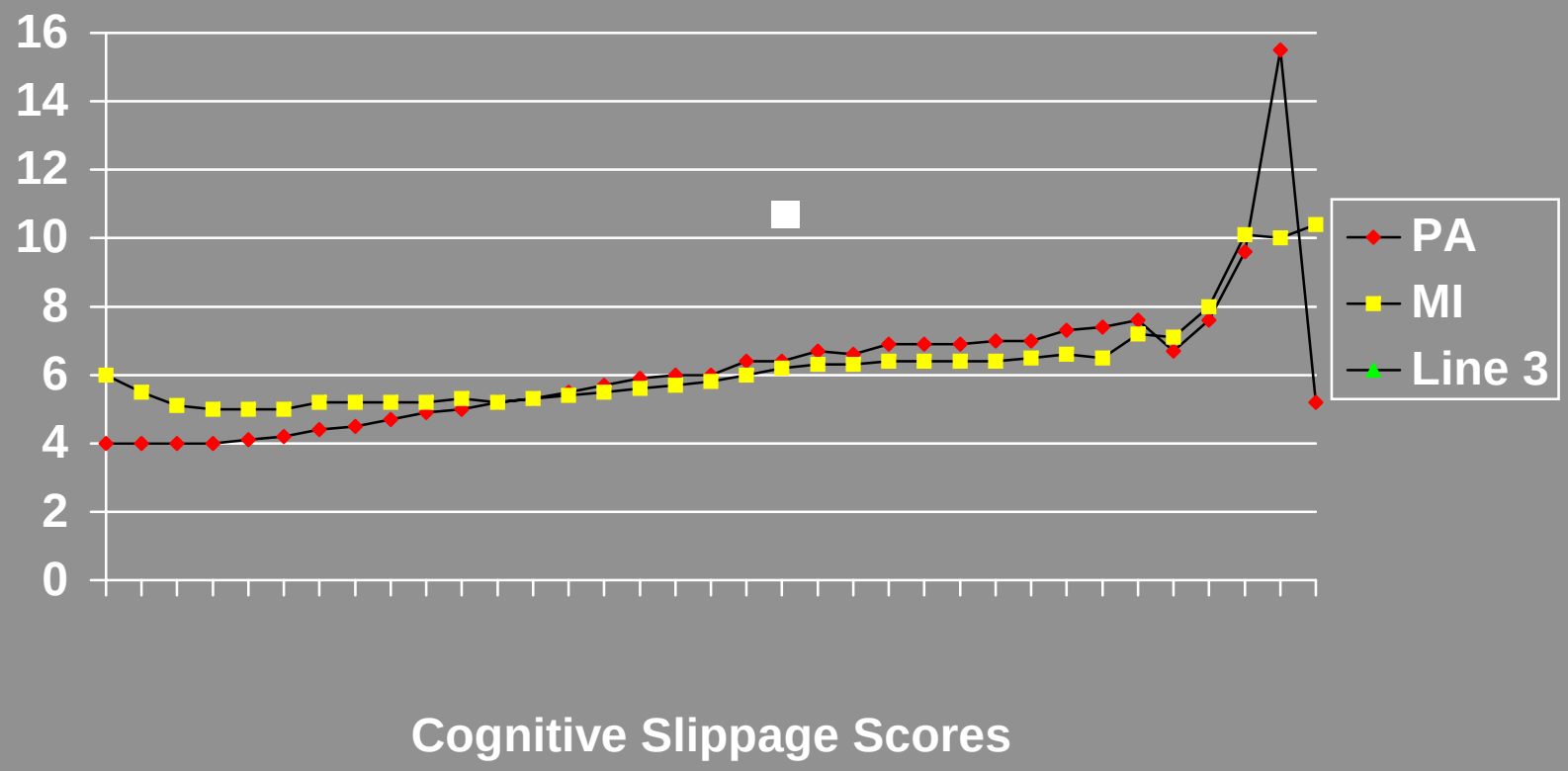
- Mean Above and Below a Cut
- Sensitive to the Existence of Taxonicity
- Procedure
  - Sliding Cut on One of Two Indicators
  - Mean Difference on Second Indicator for those Above and Below the Cut
  - Difference at Point of Maximum Discrimination (i.e., HITMAX)

Typical MAMBAC Curves

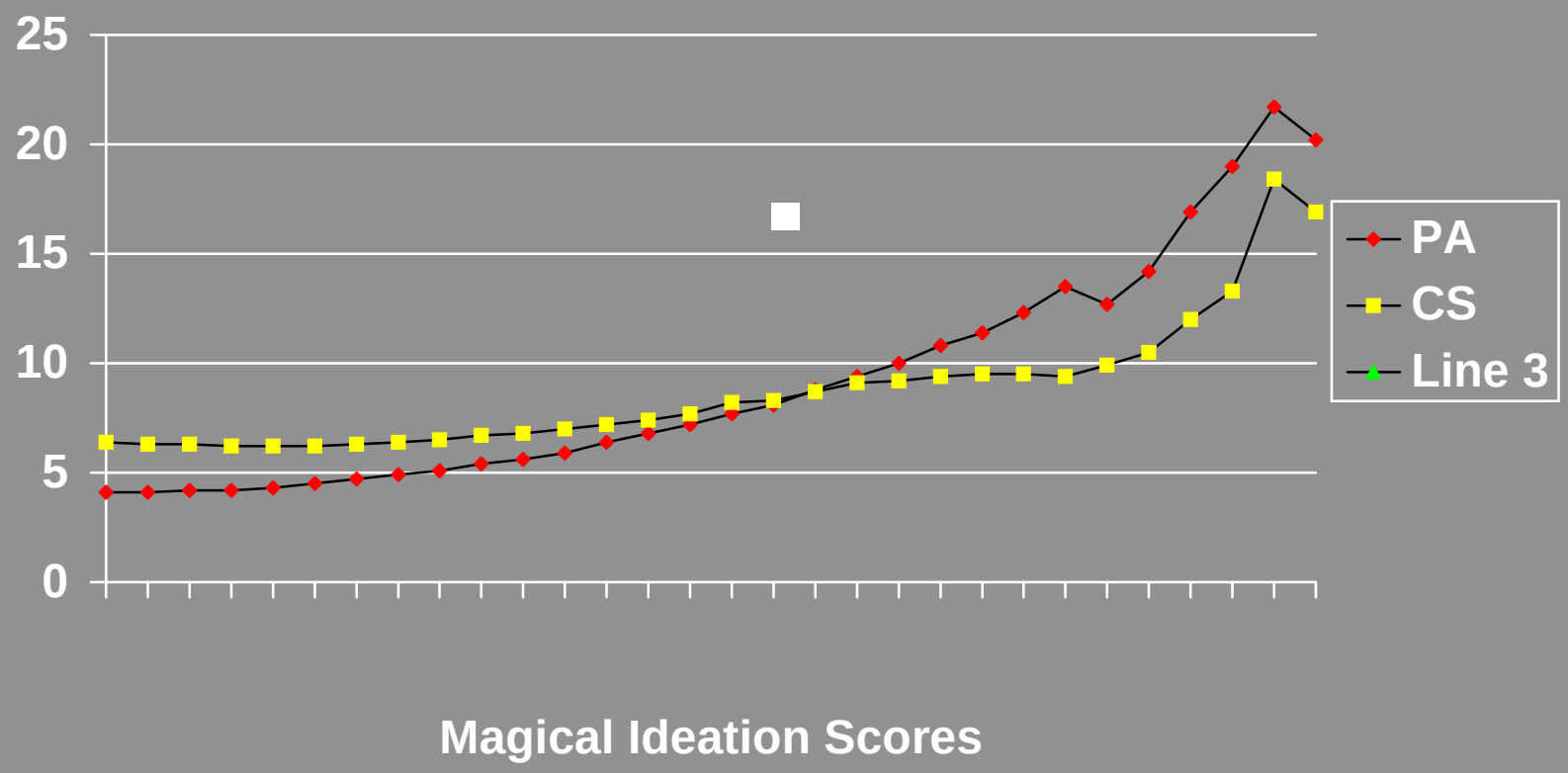
(Error Free Data)



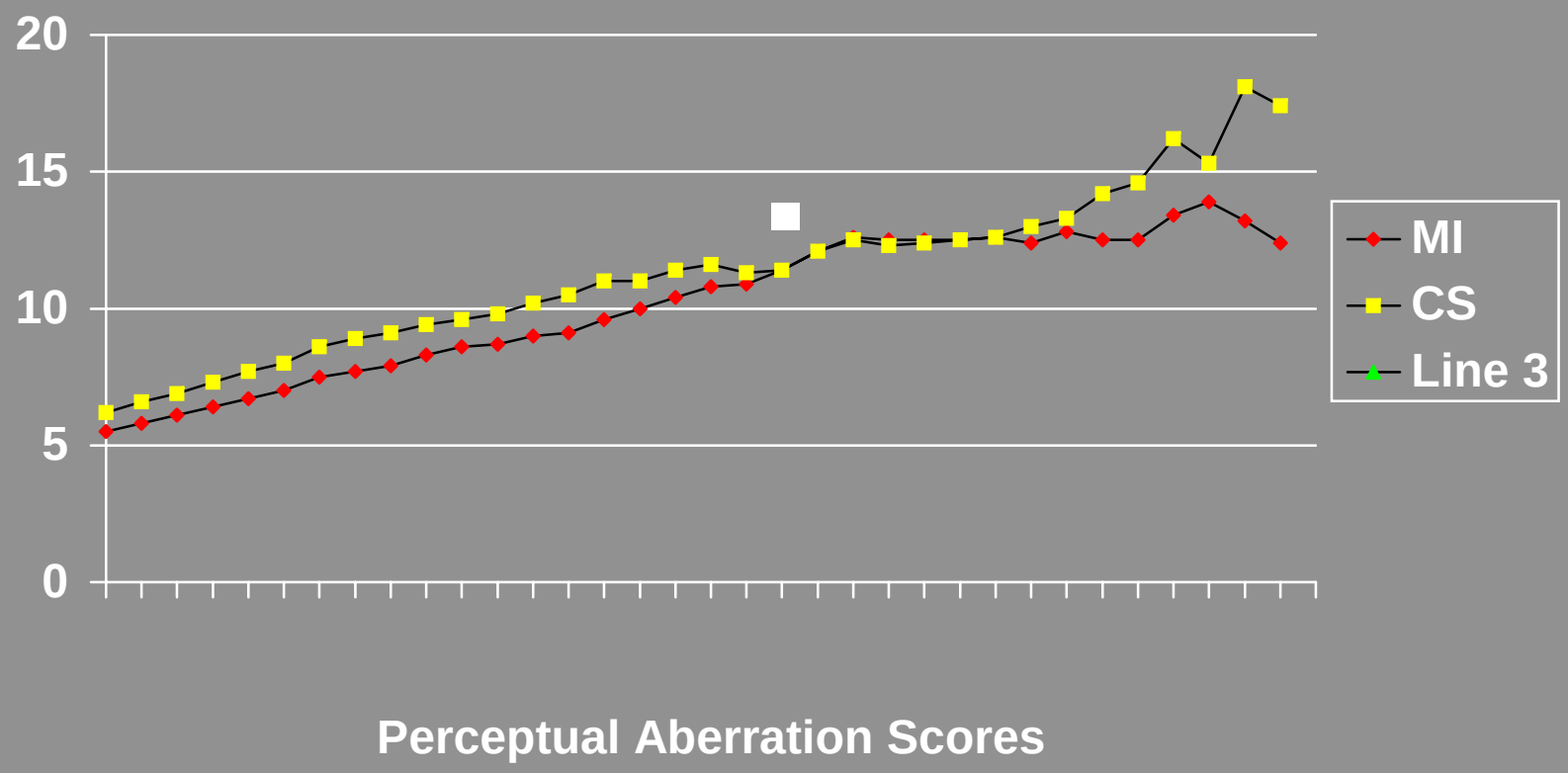
MAMBAC Curves



MAMBAC Curves



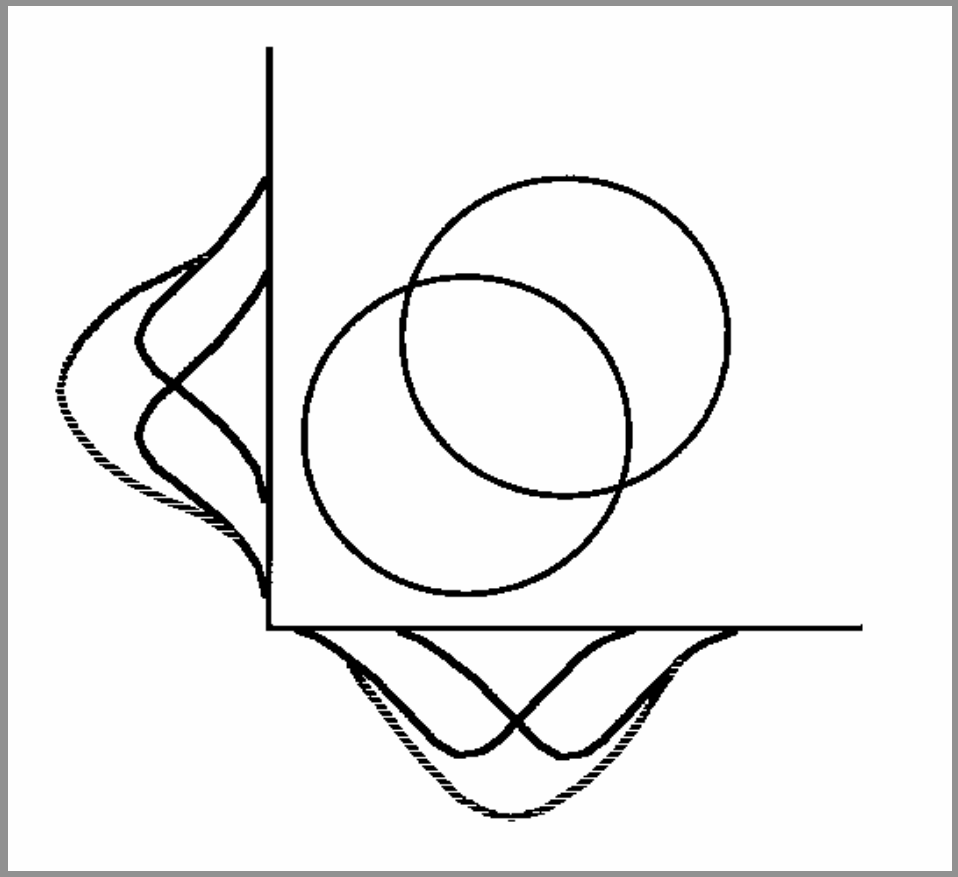
MAMBAC Curves



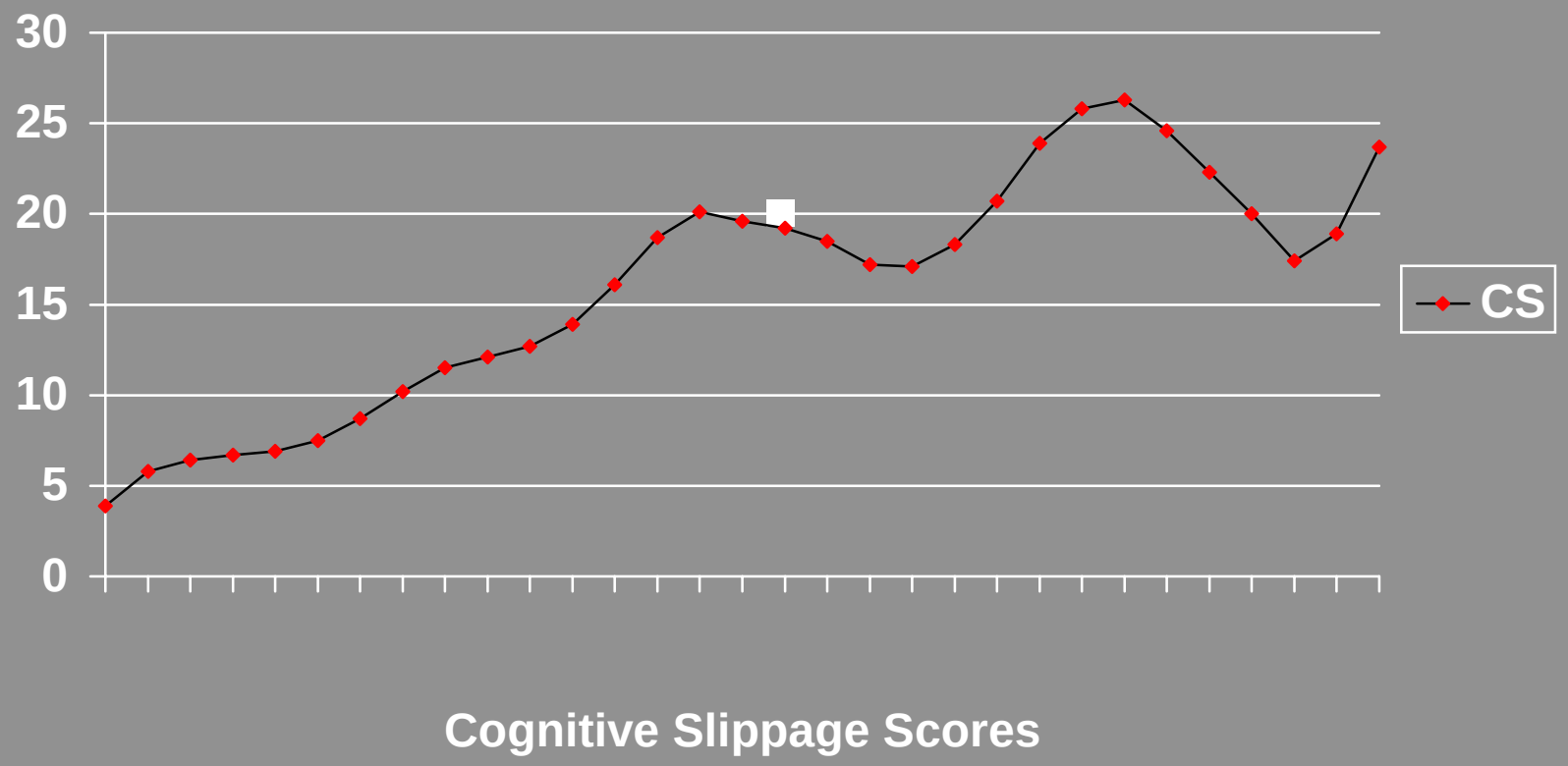
MAXCOV

- Requires 3 Indicators that are Pairwise Uncorrelated Within Taxa
- Procedure
  - Sliding Interval on Variable X
  - Compute Cov_{YZ} for Each Interval
  - Maximum Covariance at HITMAX

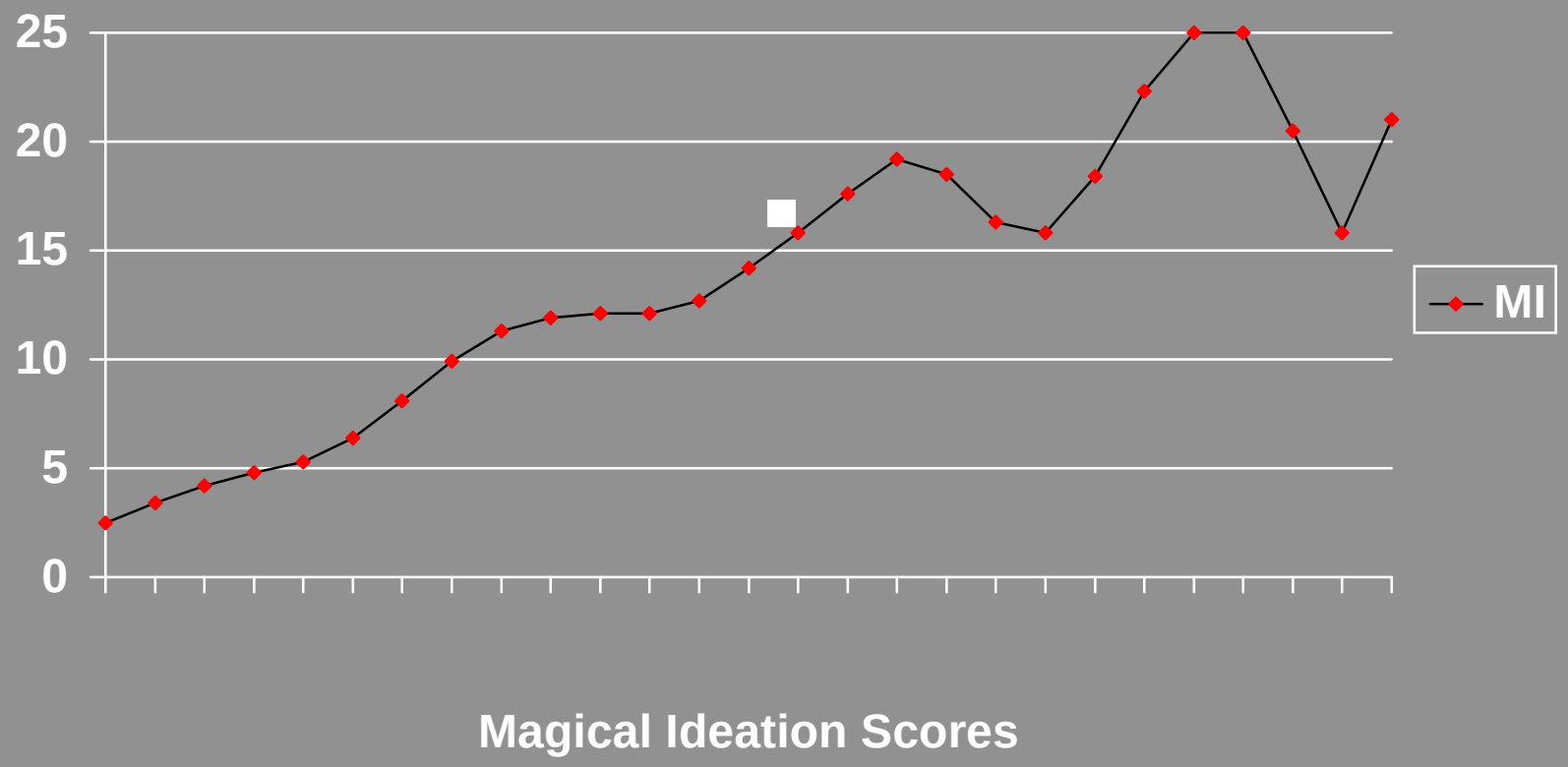
Covariance of a Mixture



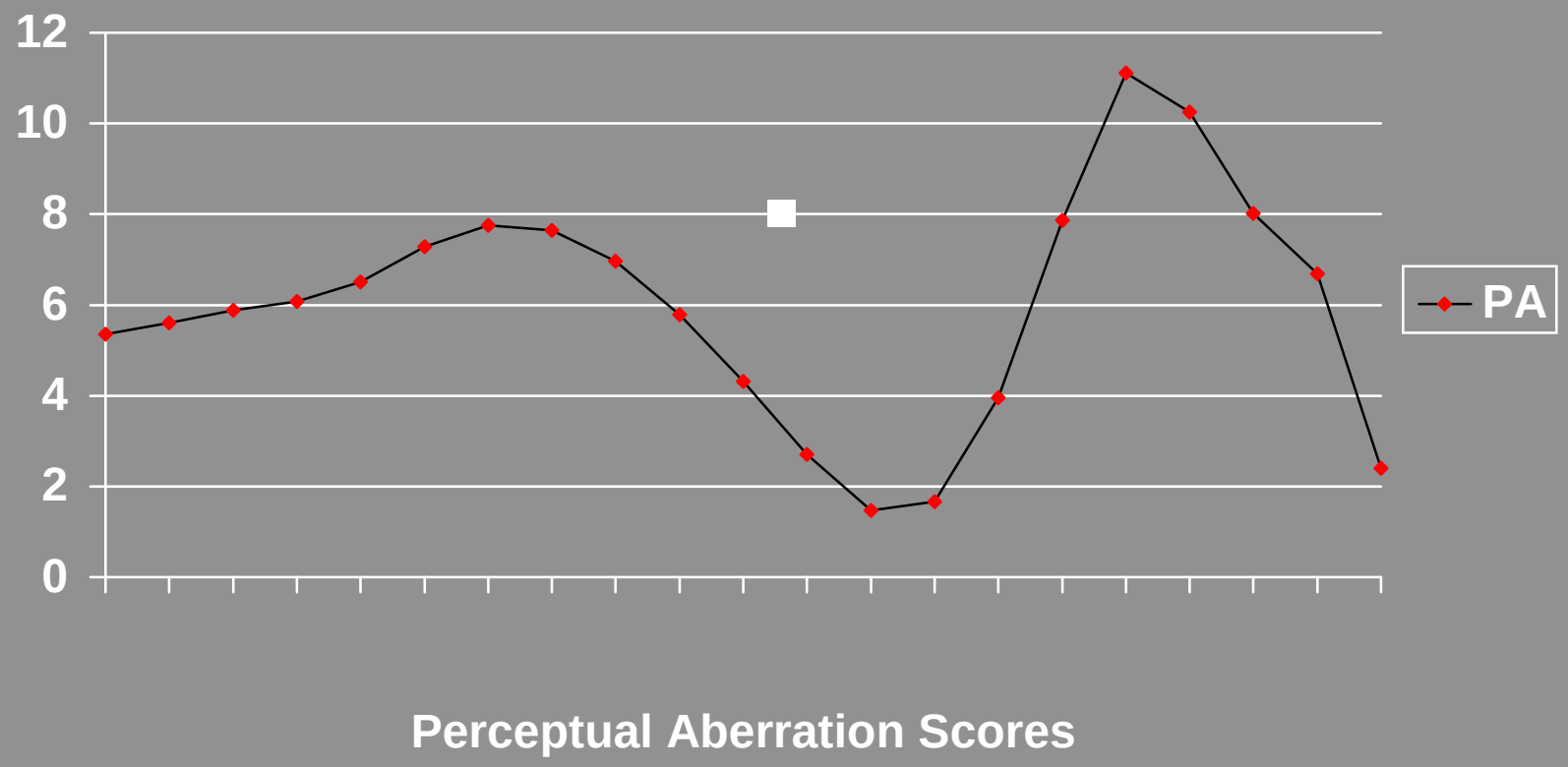
MAXCOV Curves



MAXCOV Curves



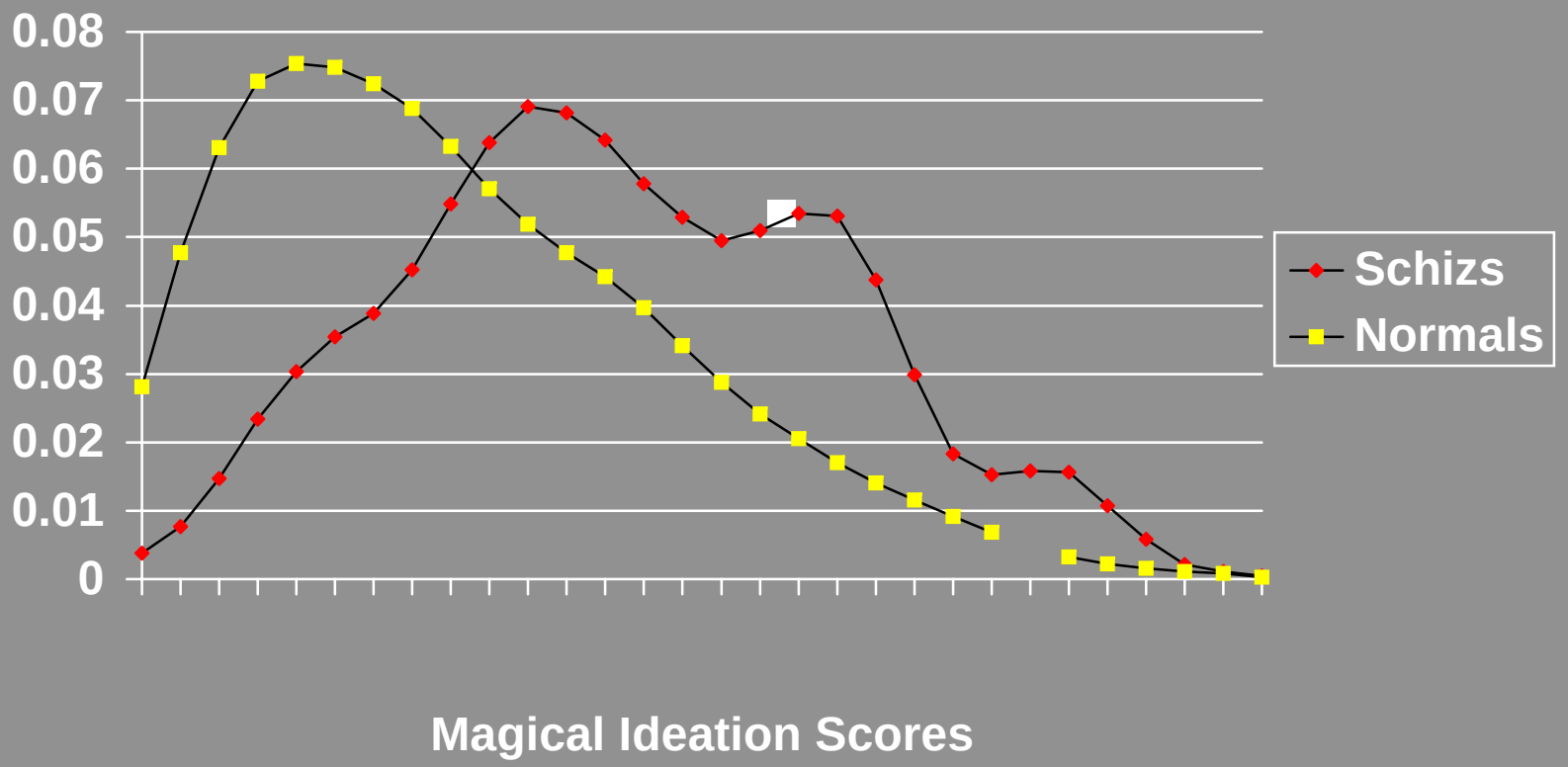
MAXCOV Curves



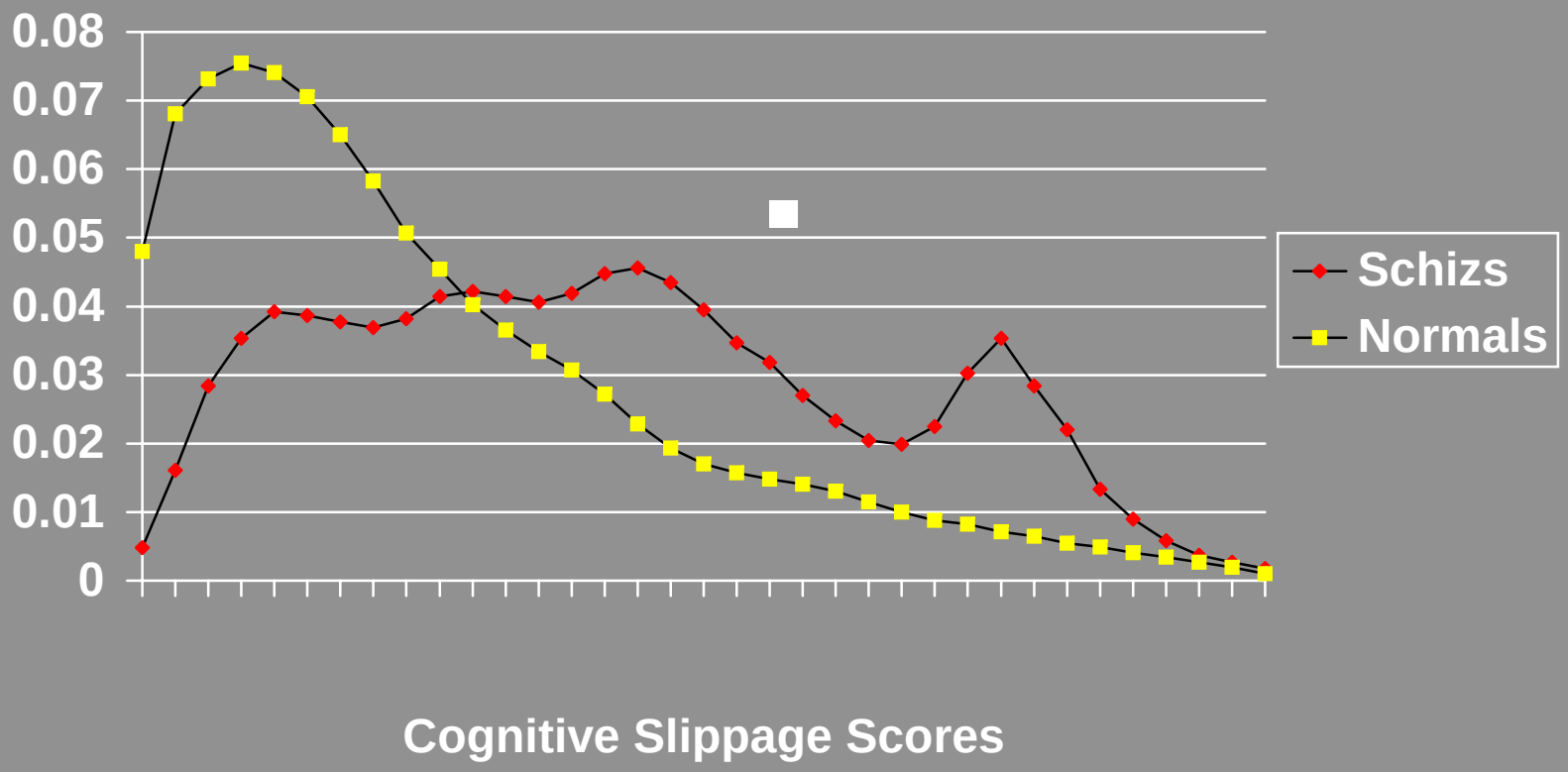
Schizotypy Base Rate Estimates

- Base Rate Estimates
  - Perceptual Aberration (7%)
  - Magical Ideation (10%)
  - Cognitive Slippage (8%)
- Consistent with
  - Each Other
  - Other Data (Lenzenweger & Korfine, 1992)
  - Expected Values from Genetic Models

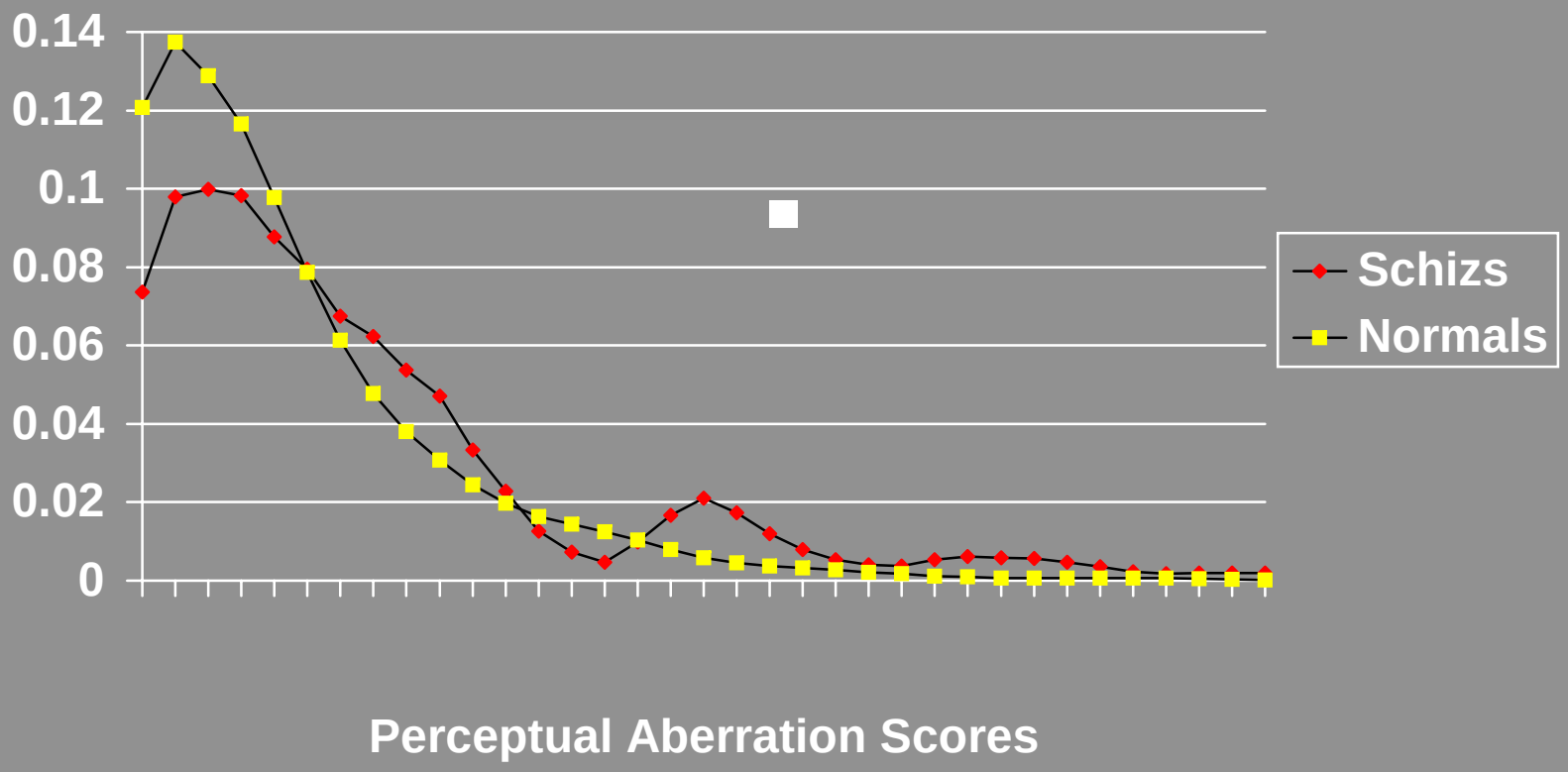
Latent Distributions



Latent Distributions



Latent Distributions



MAXSLOPE Procedure

- Same Principle as MAXCOV
- Graphical Procedure
- Slope is Maximal at HITMAX
- Results were Disappointing
- MAXSLOPE is either
  - less powerful
  - less robust to violations of assumptions

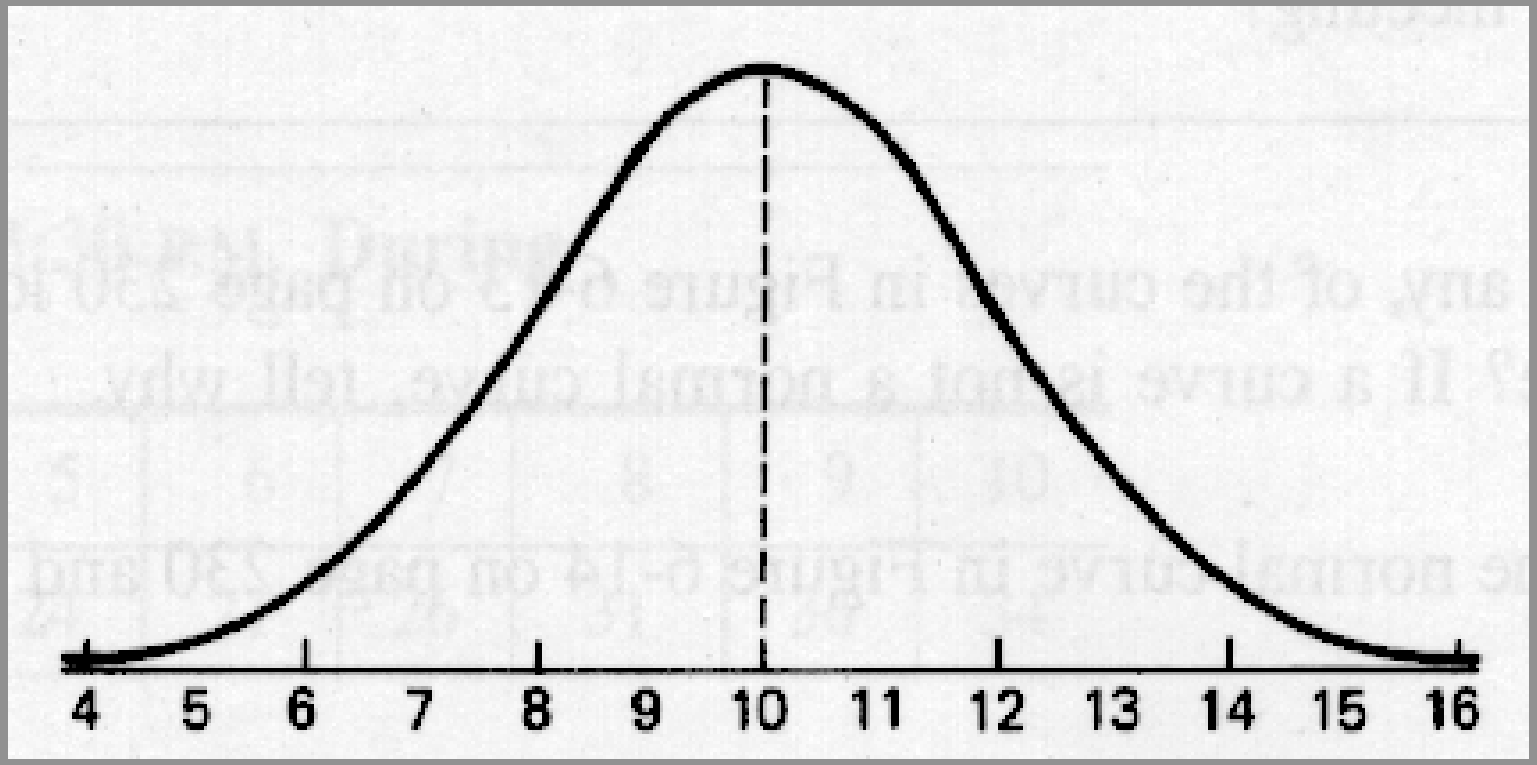
Summary of Findings

- Suggestive of an Underlying Taxonomy
- Latent Distributions Suggests These Scales do a Poor Job of Discriminating the Taxonomy
- Solution: Improve the Scales!

Scale Refinement

- Item Analysis to Refine Scales
- Test Procedures with
  - Our sample of 5000+ subjects
  - Using Monte Carlo techniques
- Be Sensitive to Possible Artifacts
- Psychometric Instruments are Very Prone to Artifacts

Psychometric Artifacts



Conclusions

- Promising Results
- Underlying Taxonomy or Artifact?
- How Effectively Do Meehl's Taxon Search Procedures Detect Psychometric Artifacts?
- If There is a Taxonomy, is it Schizotypy?