

Athens, September 2025

Mapping Sentencing Research

Scoping Literature Review, Upgraded

Eurocrim Conference

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The Sentries project

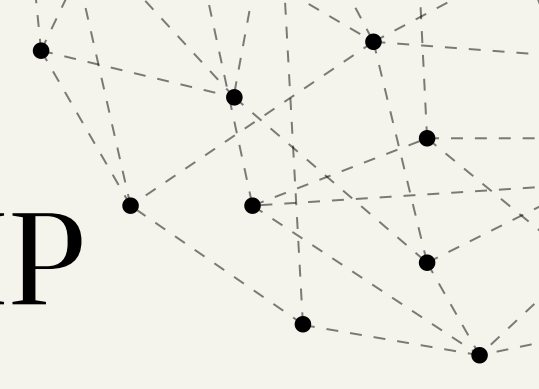
OVERARCHING GOAL:
To understand the sentencing environment

- define actors, tools, processes
- set the foundation for modelling sentencing as a structured decision-making environment.

In order to achieve that

EXAMINE AND MAP WHAT THE SENTENCING SCHOLARSHIP SAYS

- identify key themes, methods, jurisdictions, gaps



A MAP OF WHAT THE SENTENCING SCHOLARSHIP

WHAT WE WANT?

- To capture the widest possible range of sources
- To build the foundation for a research of the sentencing environment with specific theoretical framing
- Most importantly, an approach that is:
 - Large-scale
 - Uniform
 - Efficient
 - Structured and reviewable

WHAT ARE THE ISSUES?

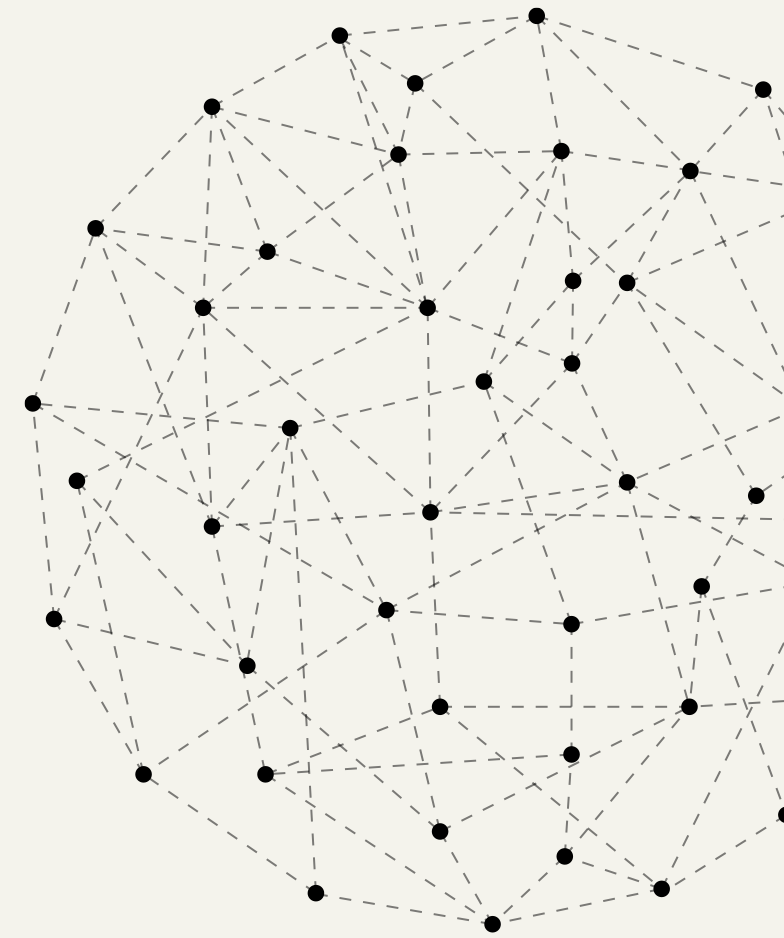
- Objective:
The multiplicity of sentencing research
- Subjective & Objective:
The limits of manual review

Testing methodological AI waters

First Attempt – Theme Classification (Human + AI)

- Predefined taxonomy: 60+ themes, 250+ subthemes
- Humans and ChatGPT assigned 5–8 subthemes per paper
- Tested different models & prompts → results lacked nuance & consistency
- Human refinements inconsistent, added noise

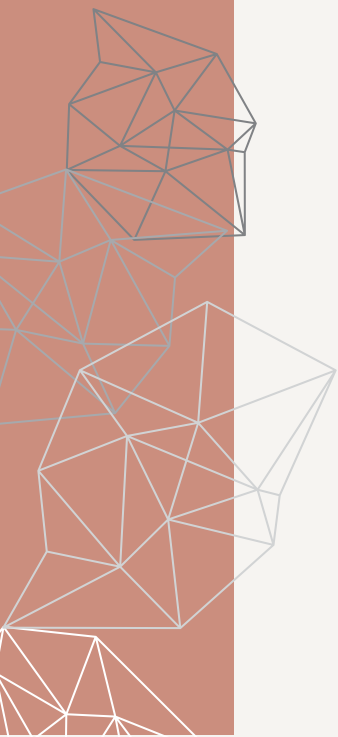
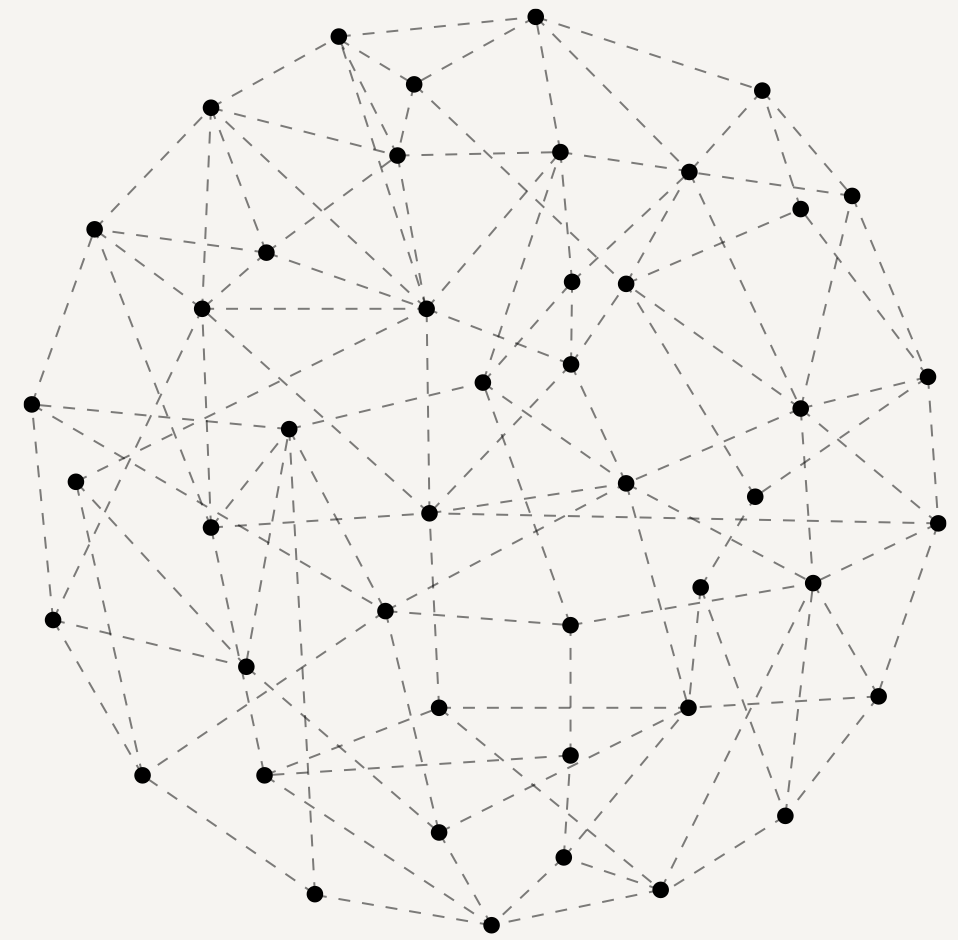
Conclusion: Too unreliable. We needed something else.



Solution? Embeddings!

WHAT ARE THEY?

- a way of converting text into a numeric vector (a list of numbers) = mathematical fingerprints of meaning
- similar ideas cluster together; unrelated ones drift apart



How do we use embeddings?

- Anchors created for pillars, methodologies, scientific fields
- Embeddings show:
 - Paper-paper similarity
 - Paper-concept similarity
 - Outcome: robust relational map

But: embedding-based similarity needs to be interpreted!

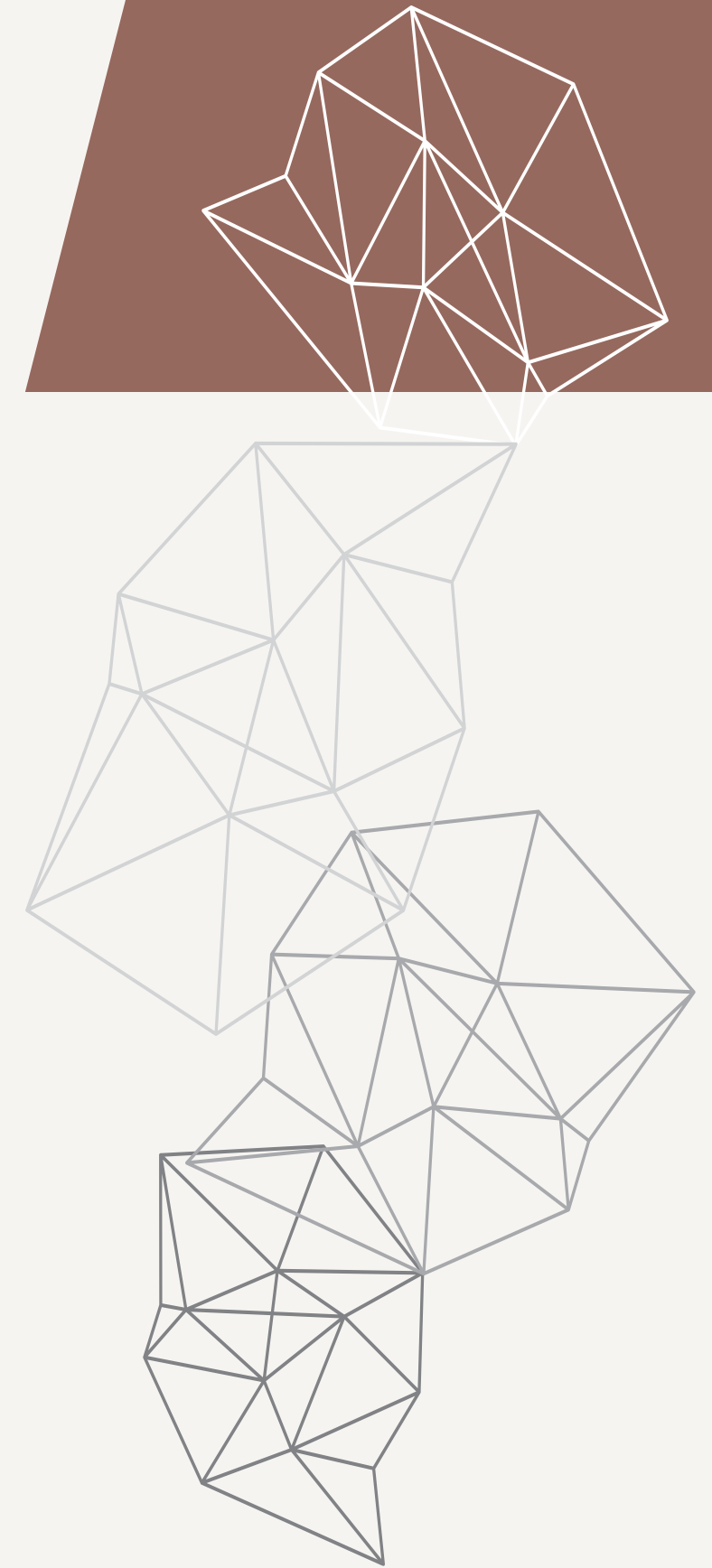
- Adding Metadata:
 - Bibliographic data (Scopus)
 - ChatGPT annotations
 - Overlay in app: filters & layers

Takeaway:

- Embeddings create the relational map.
- Metadata turns it into a meaningful, navigable landscape.

Result?

An interactive map of the sentencing research
and a research tool



1263

Total Papers



1263

Papers Shown



Network

Table

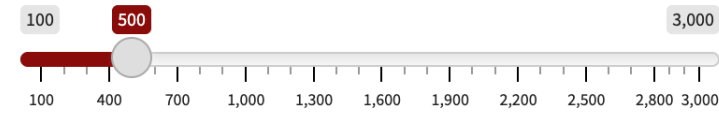
Select a paper



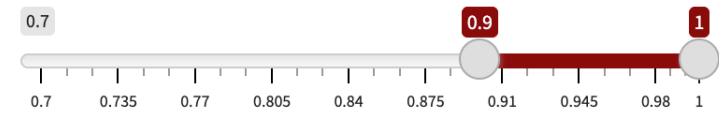
Connections between Papers



Max total number of connections shown:



Strength of connections shown



Highlight Papers



By searching

Enter keywords



By characteristic

None



Filter: Paper Characteristics



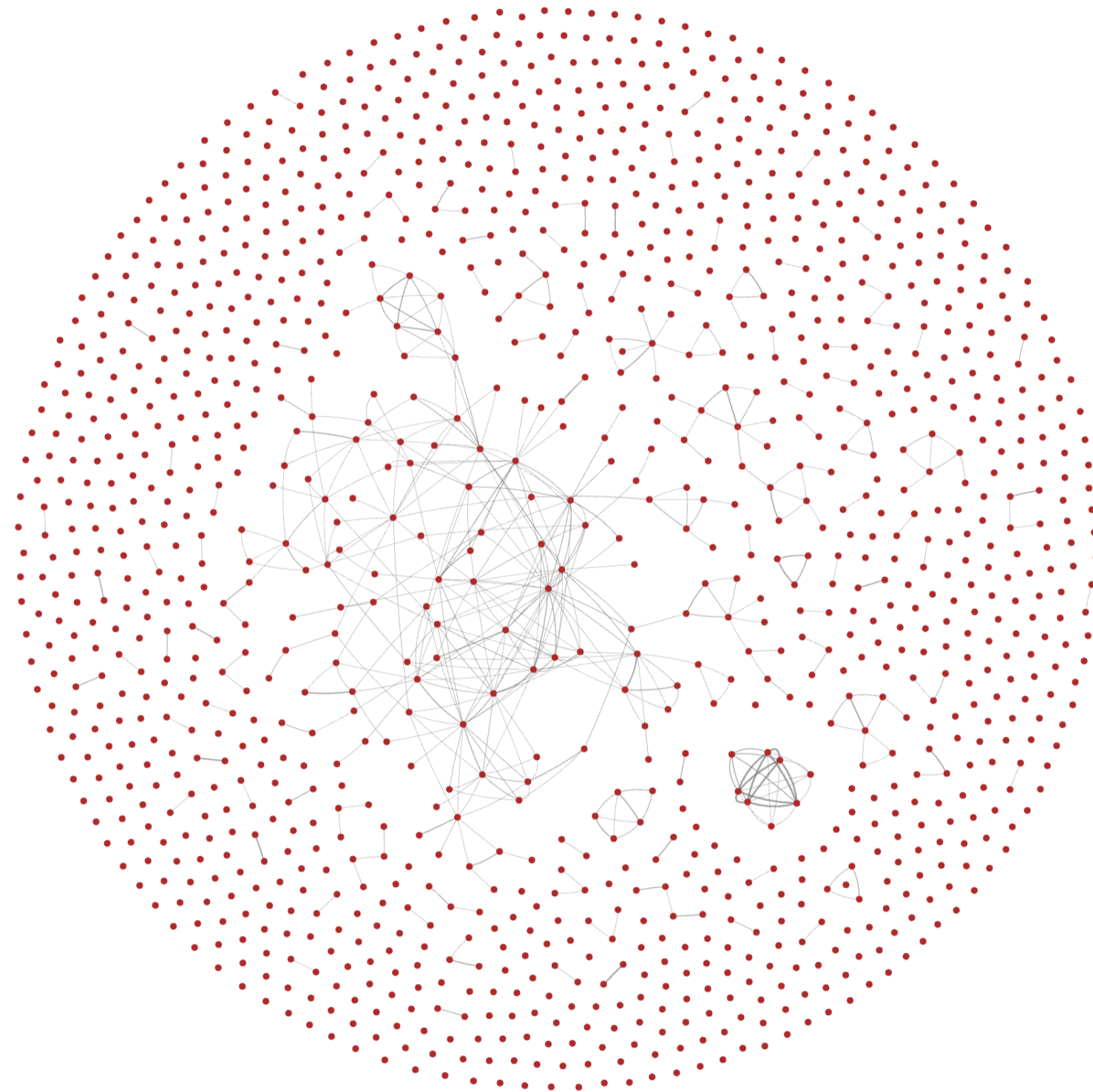
Filter: Paper Pillars



Filter: Scientific Fields



CLEAR ALL FILTERS





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Total Papers

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Papers Shown

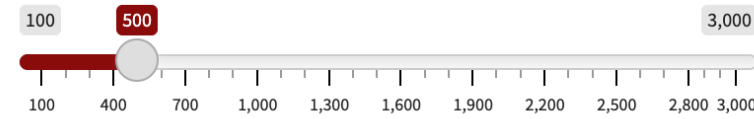
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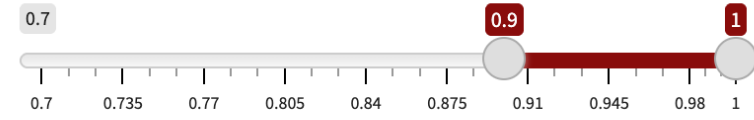
Introduction

Connections between Papers

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Highlight Papers

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risk assessment

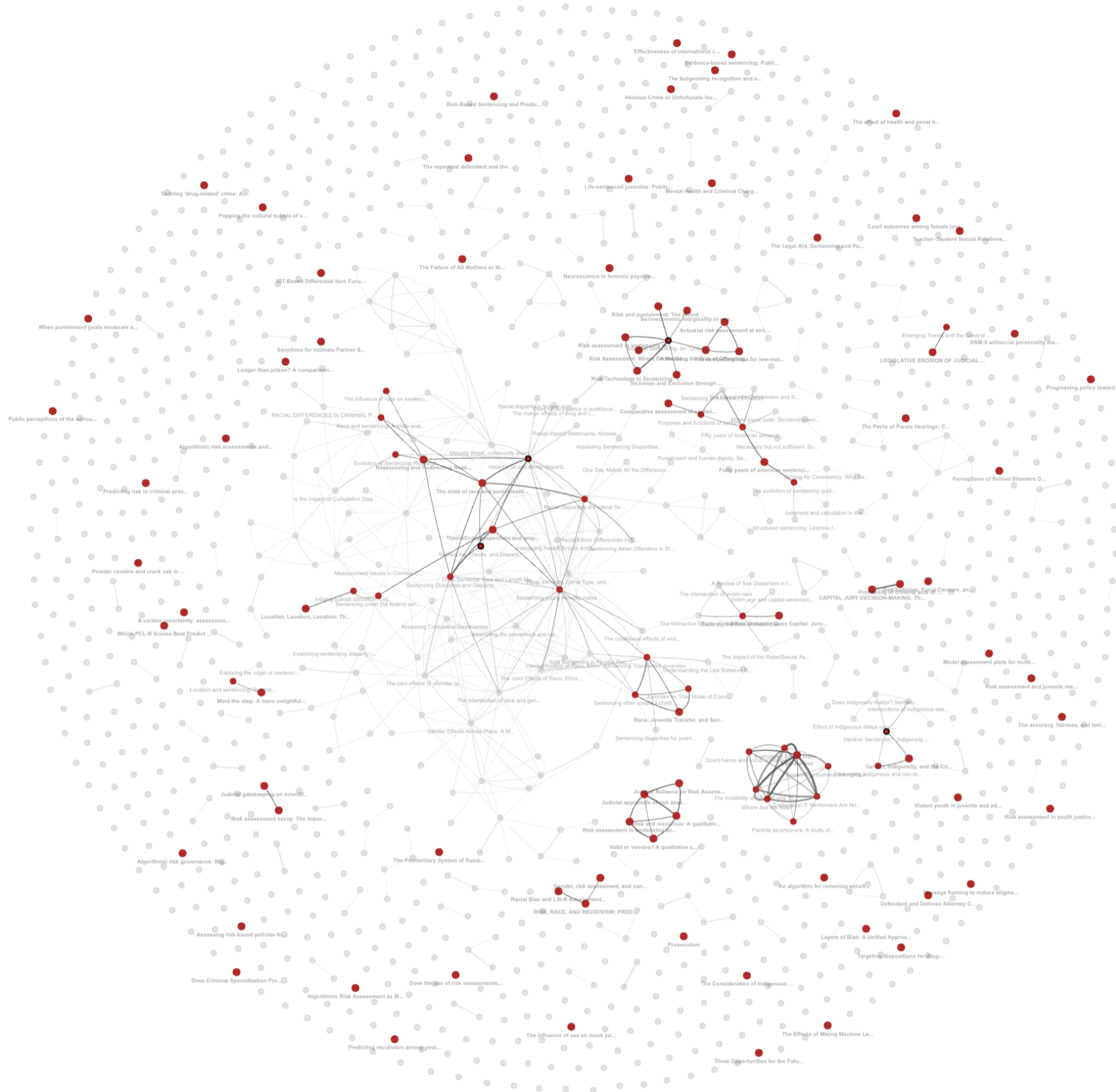
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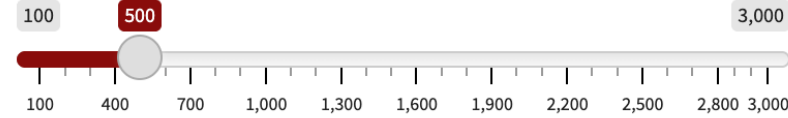
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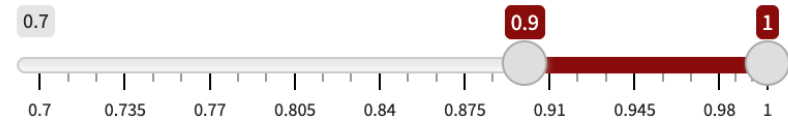
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risk assessment

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Table

Introduction

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Neuroscience in forensic psychia...

Risk and punishment: The recent ...
Socioeconomic marginality in sen...

Actuarial risk assessment at sen...

Risk assessment in sentencing de...

Actuarial Sentencing: An "Unsett...

Risk Assessment: Where Do We Go ...

The compelling case for low-viol...

Risk Technology in Sentencing: T...
Inclusion and Exclusion through ...

deral crim...
racial balance in workforce...
ects of drug and c...

Comparative assessment of senten...

Sentencing in America 1975-2025
The President's Comm...

Purposes and functions of senten...

Model penal cc

Fifty years of American sent

Impact Statements, Knowle...

Assessing Sentencing Disparities...

Punishment and human dignity: Se...
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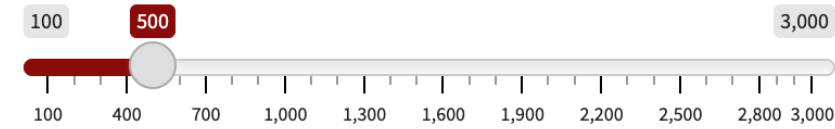
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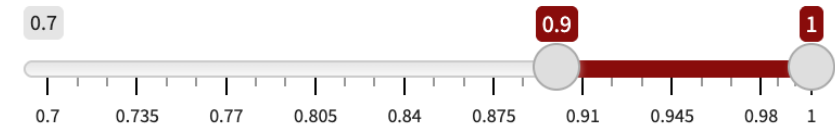
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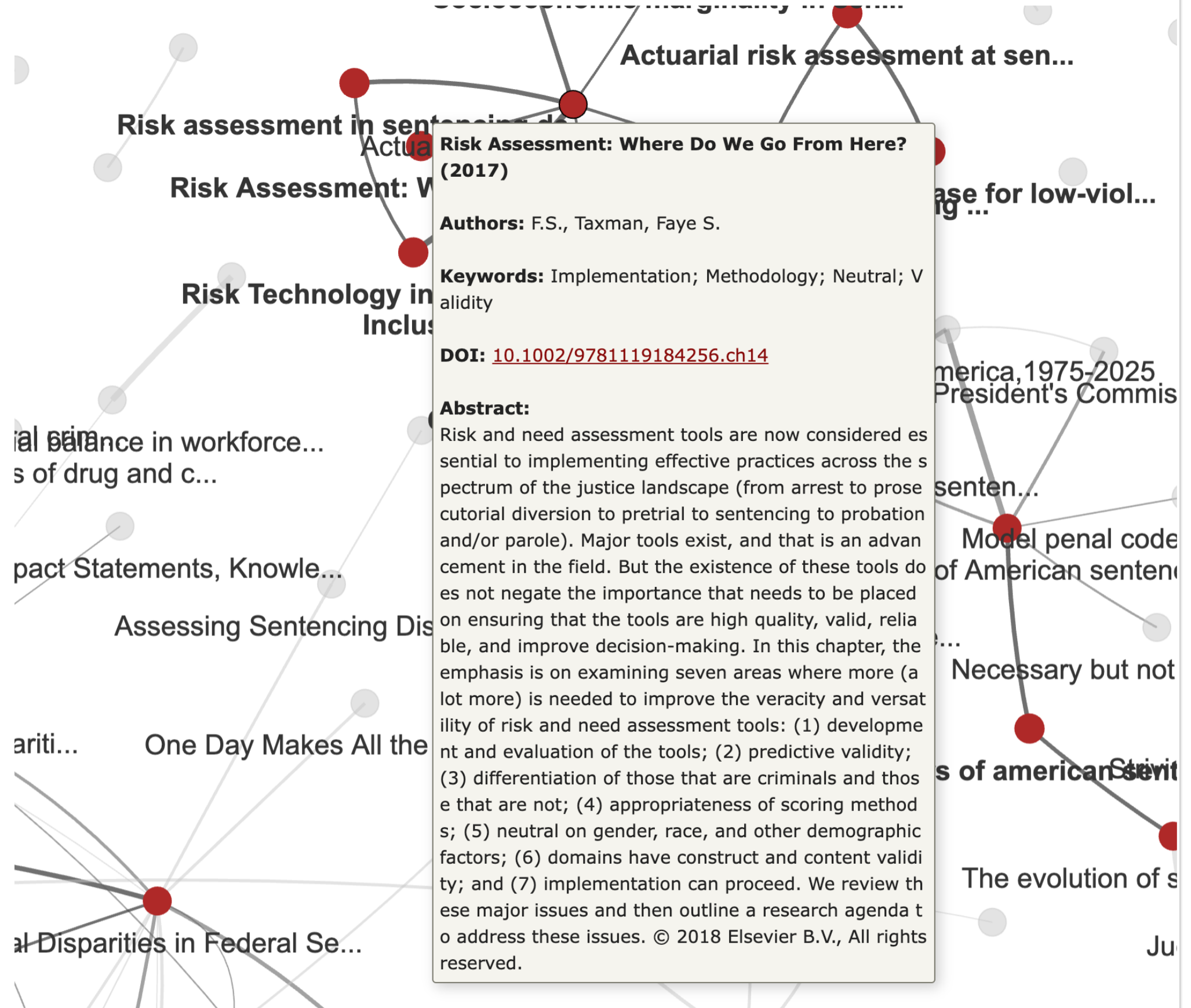
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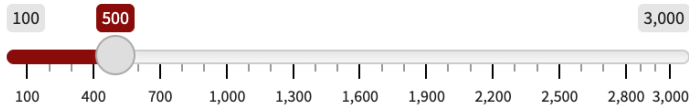
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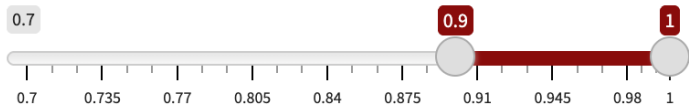


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Highlight Papers

By searching

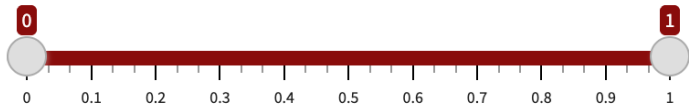
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Methodology

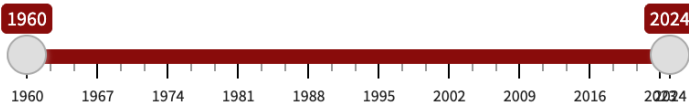
Filter: Paper Characteristics

Filter by search term:

Relevance for SENTRIX:



Paper Publication Year:



Main methodology:

Theoretical / Reviews Empirical - Quantitative Empirical - Qualitative Empirical - Mixed Other

Author affiliation country:

Australia, Belgium, Botswana, Brazil, Canada, Chile

Network

Table

Select a paper

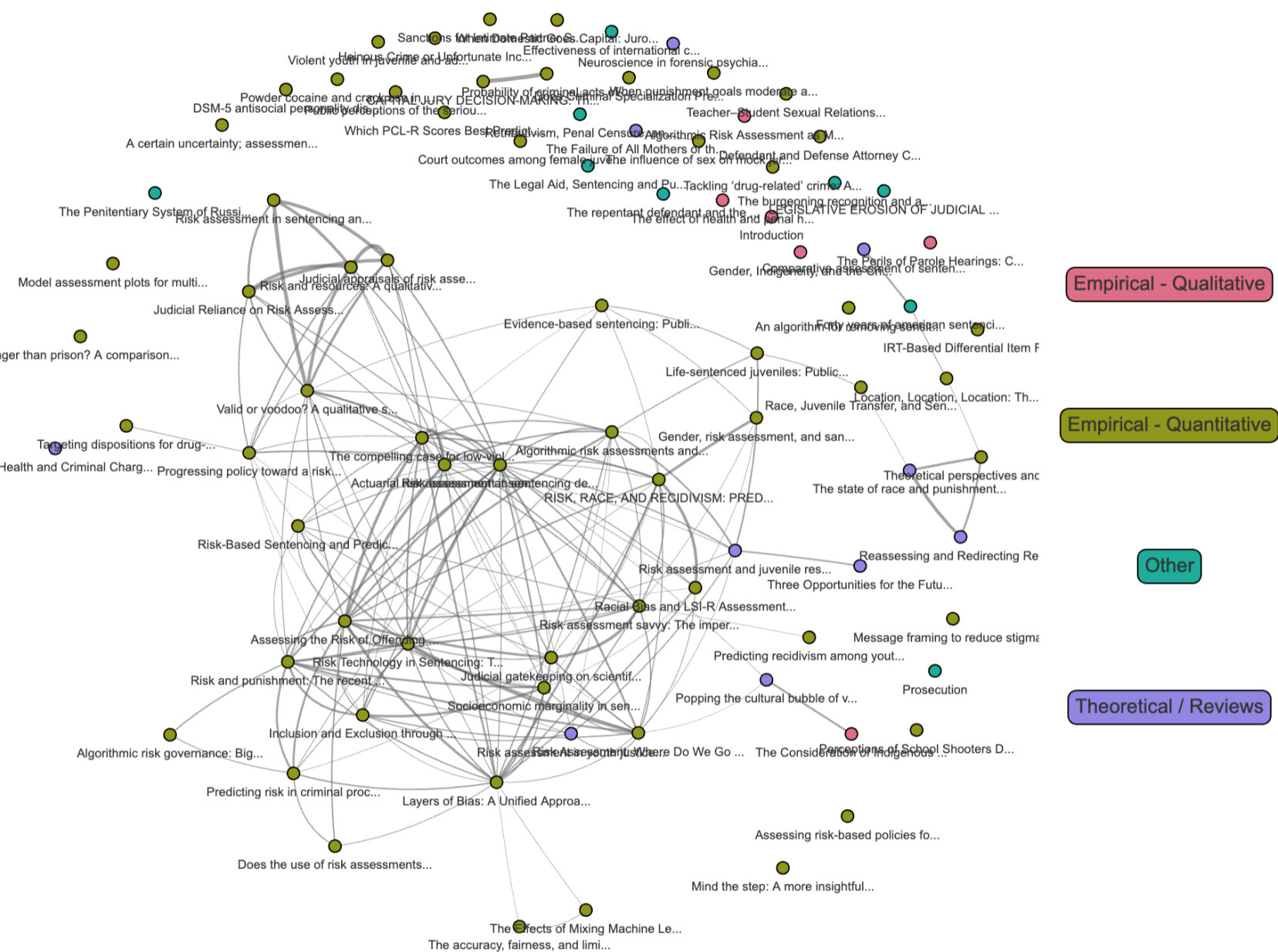
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Total Papers



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Papers Shown



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Total Papers



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Papers Shown



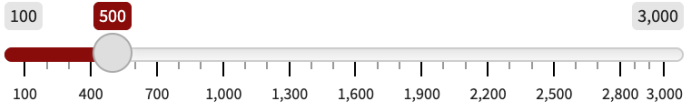
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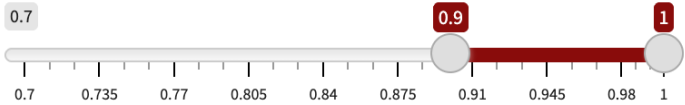
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Connections between Papers

Max total number of connections shown:



Strength of connections shown



Highlight Papers

By searching

Search input: julian roberts

By characteristic

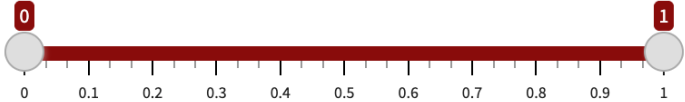
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Filter: Paper Characteristics

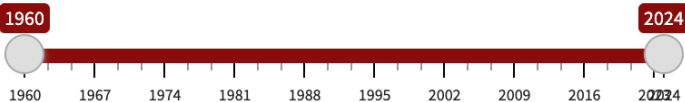
Filter by search term:

Search input: Enter keywords

Relevance for SENTRIX:



Paper Publication Year:

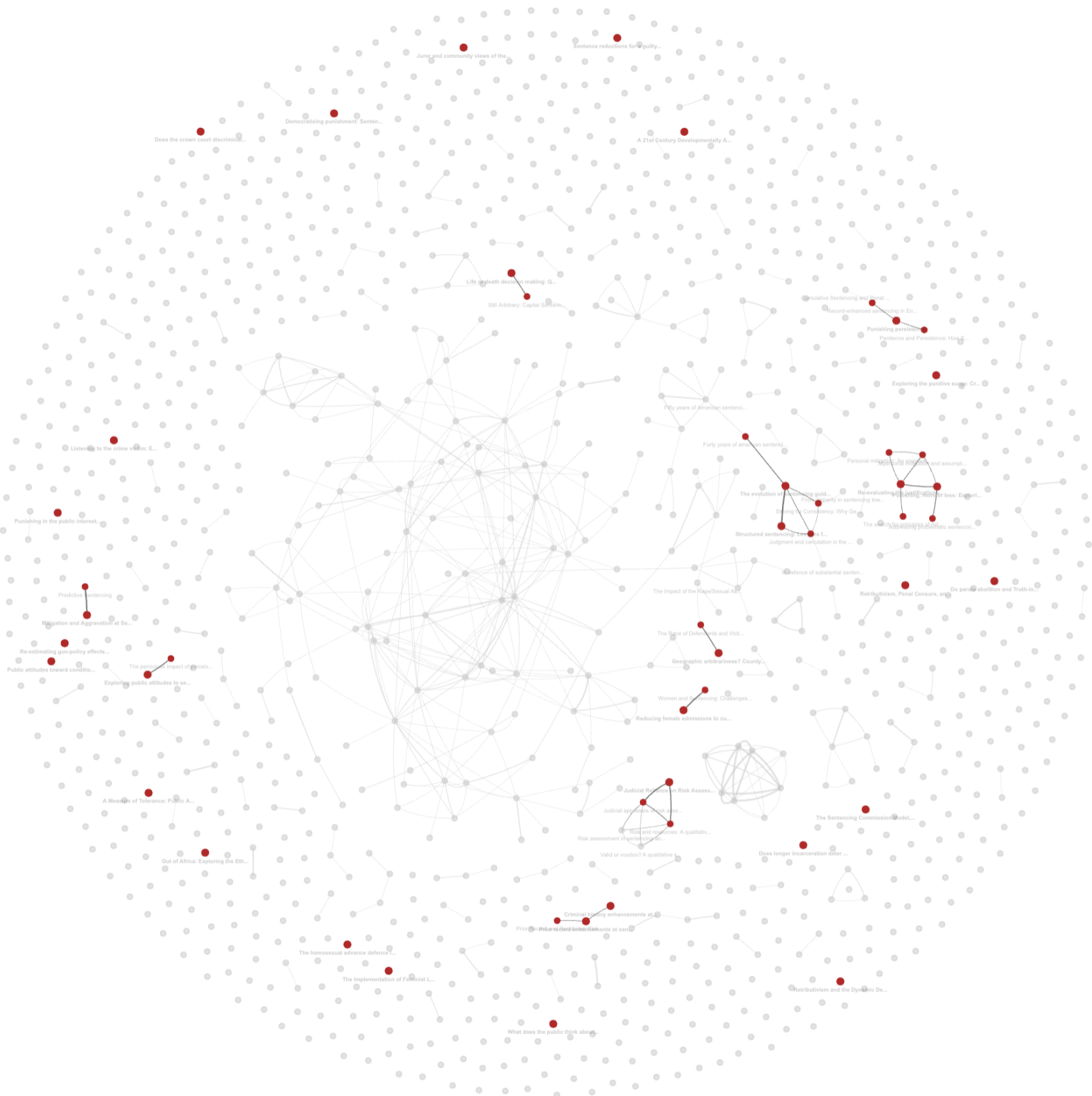


Main methodology:

Buttons for Main methodology: Theoretical / Reviews, Empirical - Quantitative, Empirical - Qualitative, Empirical - Mixed, Other

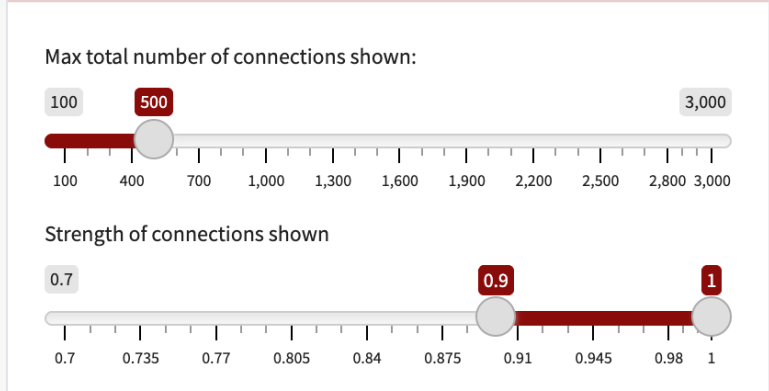
Author affiliation country:

Dropdown menu for Author affiliation country: Australia, Belgium, Botswana, Brazil, Canada, Chile





Connections between Papers



Highlight Papers

By searching

julian roberts

By characteristic

None

Filter: Paper Characteristics

Filter by search term:

Enter keywords

Relevance for SENTRIX:

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Paper Publication Year:

1960 2024

Main methodology:

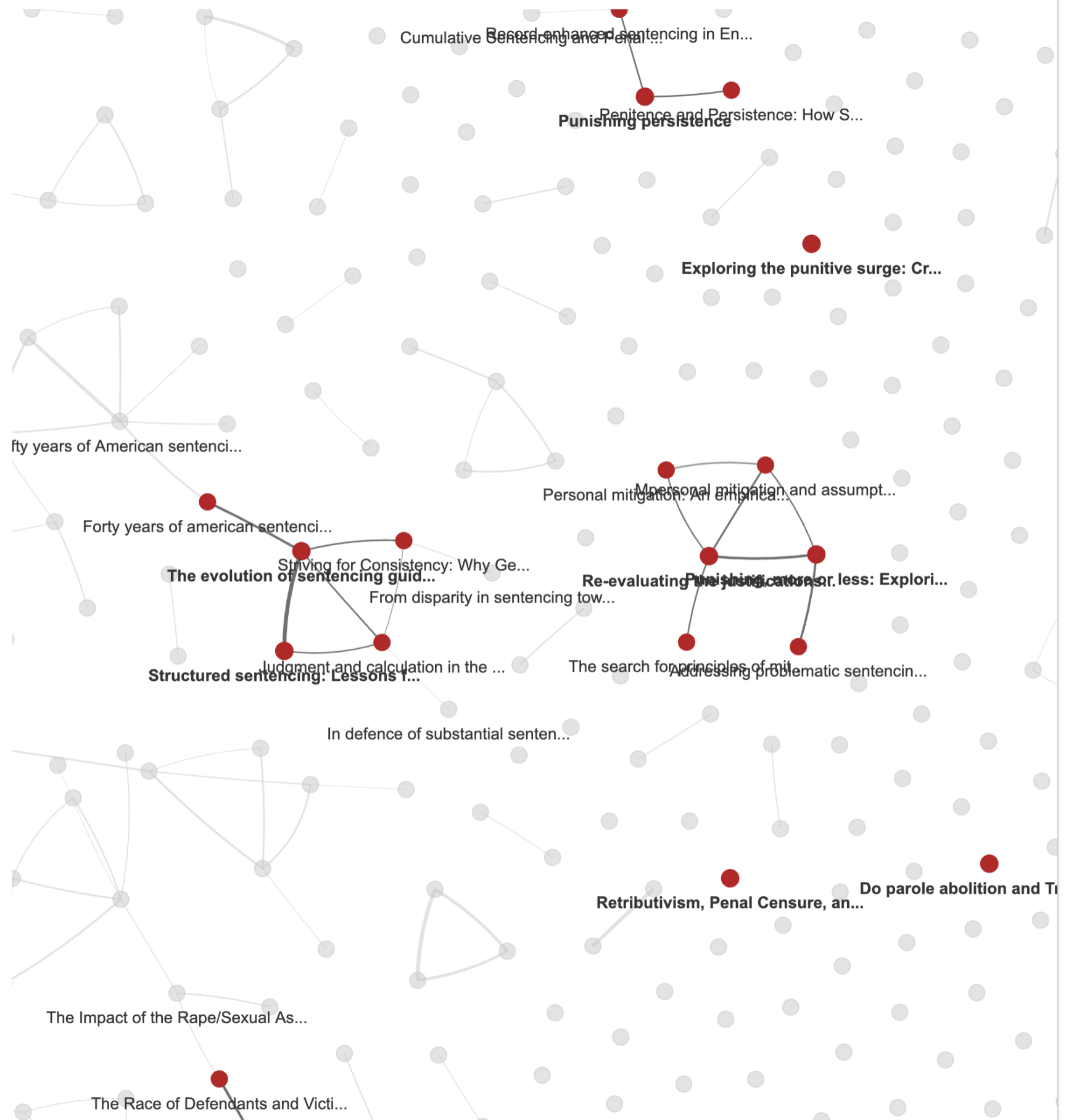
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Network Table

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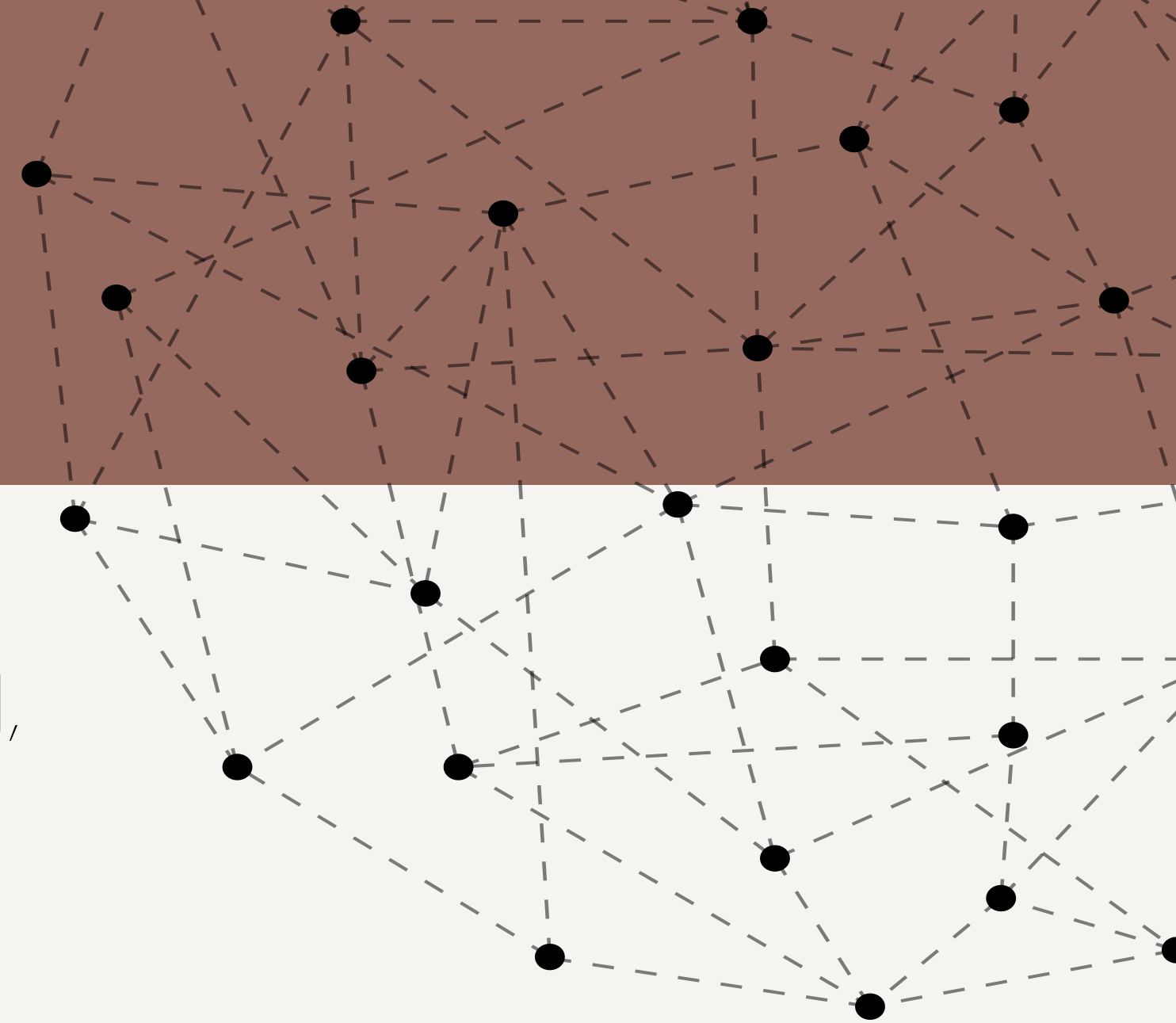
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Papers Shown

What does this give us?

A rich network of papers that can be searched, filtered, and visualised based on a large set of their properties

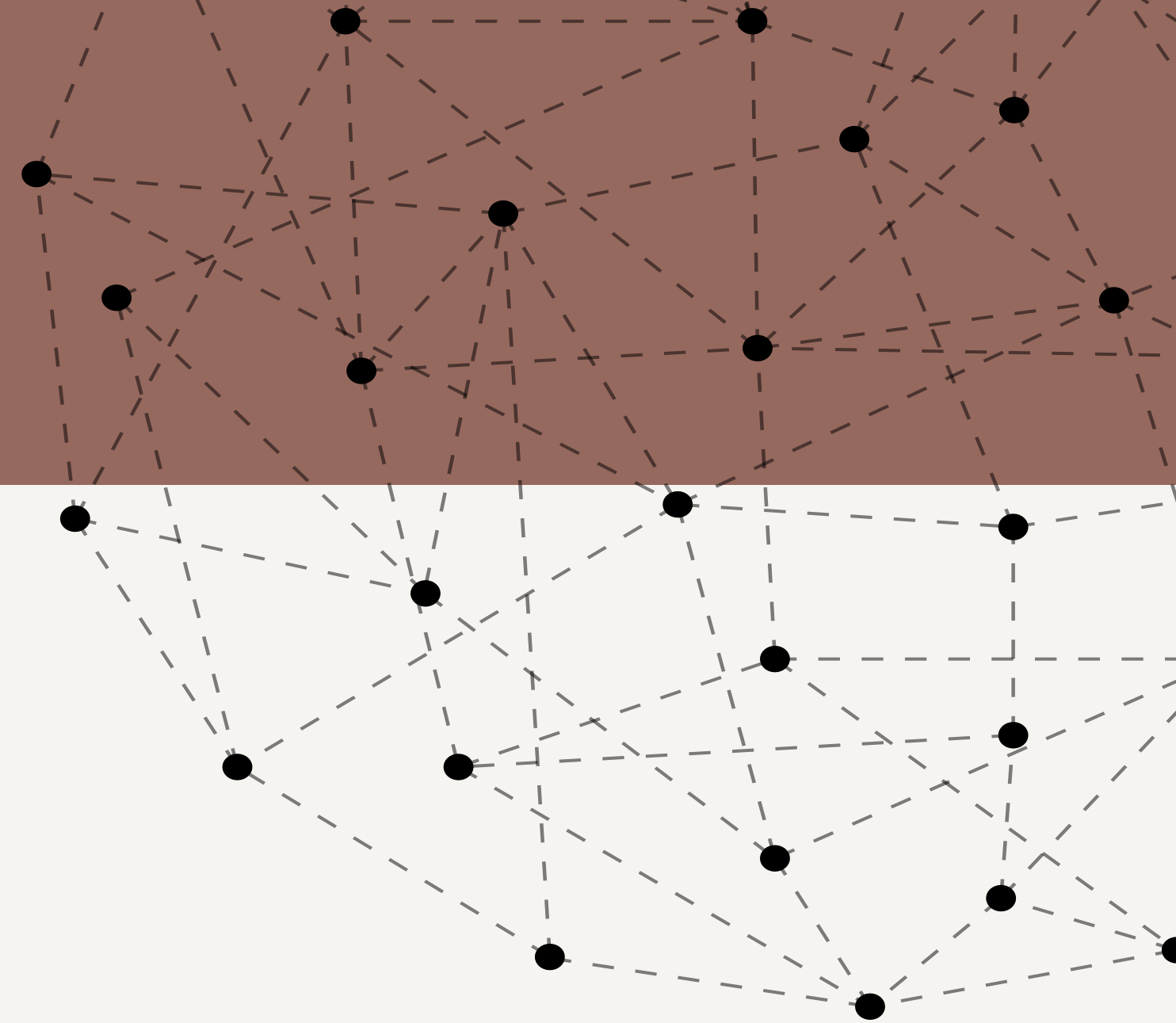
That enables us to:

- To explore what are the (latent) elements that structure sentencing as a decision-making environment
- To see what parts of this environment are well-represented in the literature (and perhaps what's missing or omitted)



Next steps

- Adding additional papers and paper metadata
- Wider integration into Sentrrix (choice architecture theories)
 - Understanding the sentencing environment & its elements
- Making the app available for exploration and replication



Thank you.

We welcome all and any
feedback!

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