Research Speed Dating

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SICSS

STRENGTHS OF GROUP PROJECTS

1. Better Science

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et al.png

Atypical Combinations and Scientific Impact

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Novelty is an essential feature of creative ideas, yet the building blocks of new ideas are often embodied in existing knowledge. From this perspective, balancing atypical knowledge with conventional knowledge may be critical to the link between innovativeness and impact. Our analysis of 17.9 million papers spanning all scientific fields suggests that science follows a nearly universal pattern: The highest-impact science is primarily grounded in exceptionally conventional combinations of prior work yet simultaneously features an intrusion of unusual combinations. Papers of this type were twice as likely to be highly cited works. Novel combinations of prior work are rare, yet teams are 37.7% more likely than solo authors to insert novel combinations into familiar knowledge domains.

1. Better Science

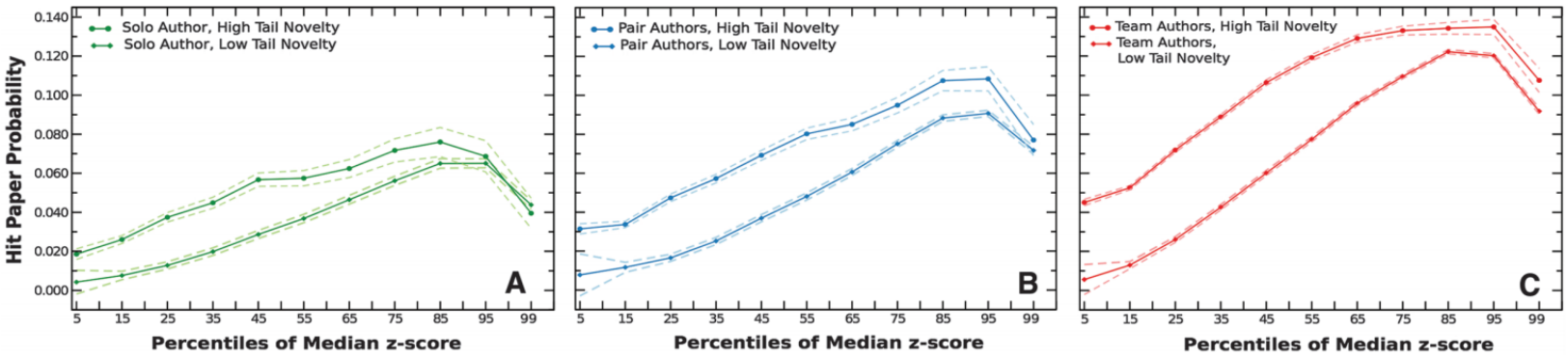

Fig. 4. Novel and conventional combinations in the production of science. (**A** to **C**) The interplay between tail novelty, median conventionality, and hit paper probabilities shows remarkable empirical regularities. First, high tail novelty papers have higher impact than low tail novelty papers at (i) any level of conventionality and (ii) regardless of authorship structure. Second, increasing median conventionality is associated with higher impact up to the 85th to 95th percentile of median conventionality, after which the relationship reverses. Third, larger teams obtain higher impact given the right mix of tail novelty and median conventionality. Nonetheless, at low levels of median convention and tail novelty, even teams have low impact, further emphasizing the fundamental relationship between novelty, conventionality, and impact in science.

2. This may be especially true for CSS

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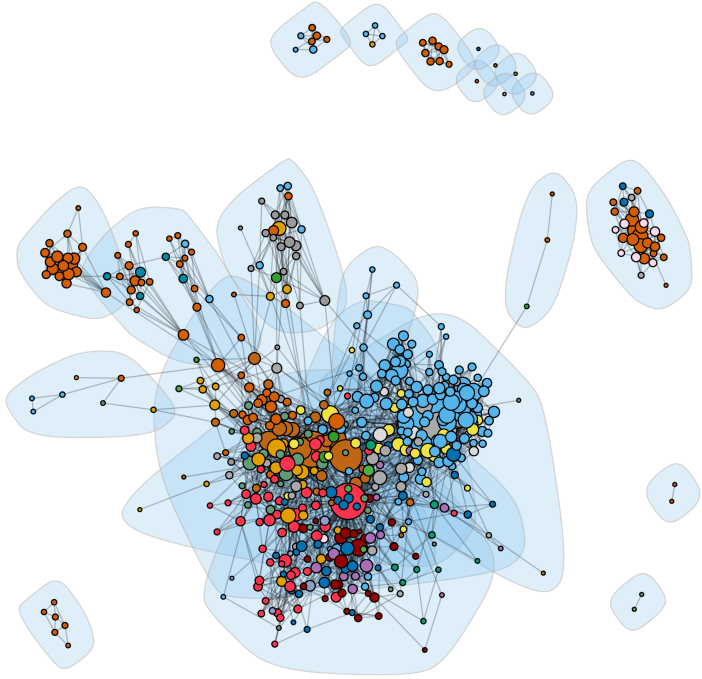


COMPUTATIONAL SOCIAL SCIENCE AS A NETWORK

Nodes colored by first-listed discipline

- Business & Economics
- Psychology
- Communication
- Social Sciences – Other Topics
- Science & Technology – Other Topics
- Computer Science
- Government & Law
- Sociology
- Geography
- Anthropology
- Environmental Sciences & Ecology
- Education & Educational Research
- Public, Environmental & Occupational Health
- Information Science & Library Science
- Cultural Studies
- Behavioral Sciences
- International Relations
- Mathematics
- Other

3. Group Projects may be the Most Efficient Way for us to Learn from Each Other

CHALLENGES OF GROUP PROJECTS

Challenges

1. Tremendous diversity of skills
2. Ensuring good group chemistry
3. Limited time
4. Different goals?
5. Free-riding

SICSS Group Projects

1. Can take on many forms (from original empirical reseaarch to creation of open-source tools)
2. In one week, many groups will only find enough time to create a proposal, though some may have pilot results by the end of the week.
3. Limited seed funding may be available at your site for pilot research and/or data purchasing, cloud computing costs.
4. Additional funding may be available at your site after the end of the week.

RESEARCH SPEED DATING

Research Speed-dating

1. We crowdsource a list of research interests in a google doc (5 min)
2. Each person writes a “1” next to their research interests (5 min)
3. We identify maximally similar clusters of participants
4. We identify maximally different clusters of participants

Research Speed-dating

1. Maximally similar clusters come up with a group project (30 min)
2. Maximally different clusters come up with a group project (30 min)
3. We start a new google doc. Each person takes 5 minutes to write down their favorite group project idea
4. Everyone puts their name next to the group project they want to join

Research Speed-dating

1. Have lunch today with your group in order to begin discussing your project.
2. It is ok to change groups until the end of today.

Timeline for this week

Monday: develop group project ideas and make research teams

Tuesday morning: write brief ($<$1 page) proposal

Tuesday afternoon: the organizer of your site will begin responding to seed funding requests on a rolling basis (if funds are available)

Tuesday afternoon-Thursday night: work on group projects

Friday (all day): group presentations (with feedback)

Deliverable

A document that contains a presentation of your group project that is between 10-20 minutes that explains:

1) Why your group project is important
2) What are your hypotheses?
3) What will you collect?
4) What are the next steps?

Note: not all projects will work; if yours fails, please write a post-mortem that explains why.

LET'S BEGIN

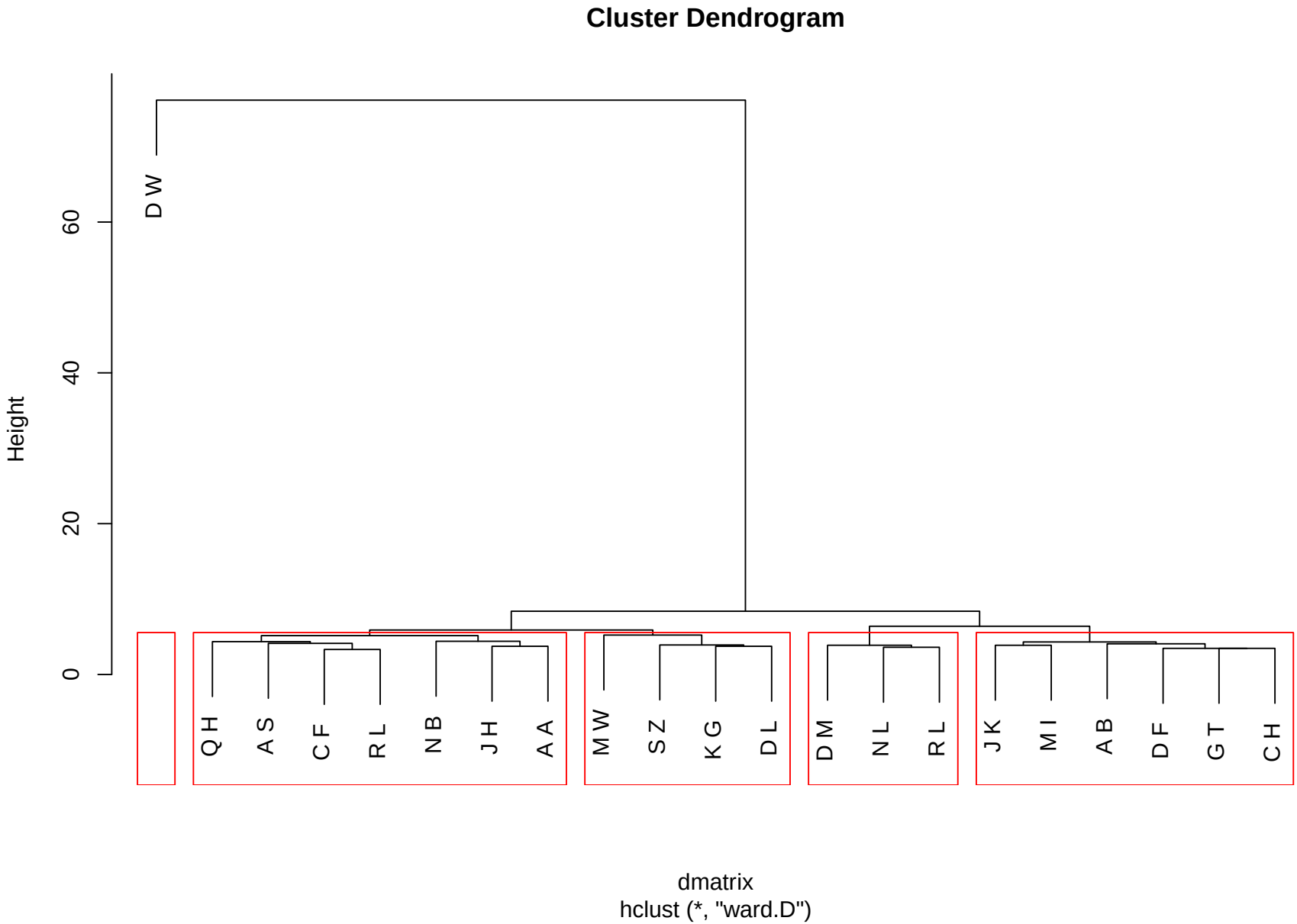
Let's crowdsource a list of our research interests

Place the name of a research interest in the first column of this document, and write a "1" across all research interests you have:

https://tinyurl.com/SICSSSpeedDating2021

Read the Googlesheet

Identify Maximally similar



Simulate Random Groups

```
## [1] 1
## [1] 2
## [1] 4
## [1] 5
## [1] 8
## [1] 10
## [1] 20
## [1] 25
## [1] 40
## [1] 50
## [1] 100
## [1] 125
## [1] 200
## [1] 250
## [1] 500
## [1] 1000
```

Identify maximally diverse groups

```
##                     names diversity_score
## 357 N L,M W,M I,C H              4.753590
## 610 R L,J K,N L,D F              4.744932
## 823 D F,R L,N L,C H              4.744932
## 477 R L,D F,M W,K G              4.736198
## 560 N L,A A,A B,M W              4.736198
## 843 J K,A B,N L,D F              4.736198
## 127 D F,M W,K G,A B              4.727388
## 217 A B,N L,M W,Q H              4.727388
## 689 A B,K G,D F,M W              4.727388
## 206 N L,A B,D L,M W              4.718499
```

Go!

Meet in maximally similar and dissimilar groups for 30 minutes. Site organizer will create googlesheet where project ideas will be listed. At the end of each 30 minutes period, one group representative should write the name of the project and a brief (less than three sentence description). After the end of the exercise, put your name next to the research project that you are most excited about joining. Click on the link to the google doc for your site here: https://tinyurl.com/SICSSSpeedDating2021