The Strength of Work Ties

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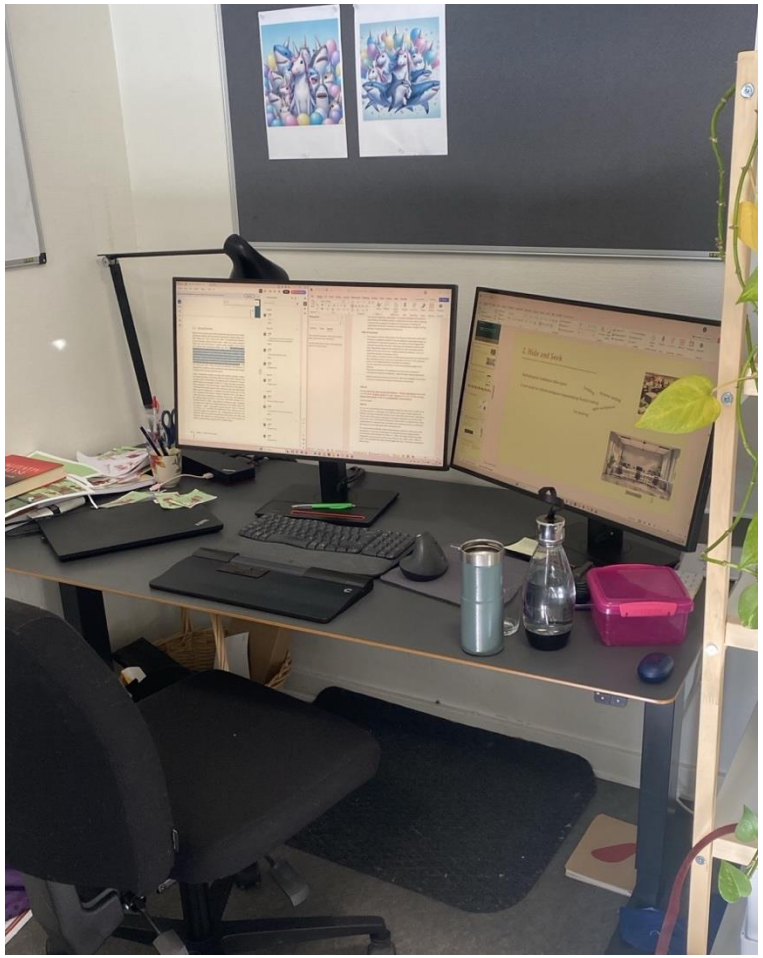


Context

- In 2026, 41% of working Danes reported regularly working remotely (Denmark Statistics)
- Hybrid work is the dominant post pandemic remote work arrangement
- Leading to implementation of flexible offices
- We explore formation and reproduction of social ties at work in such spaces



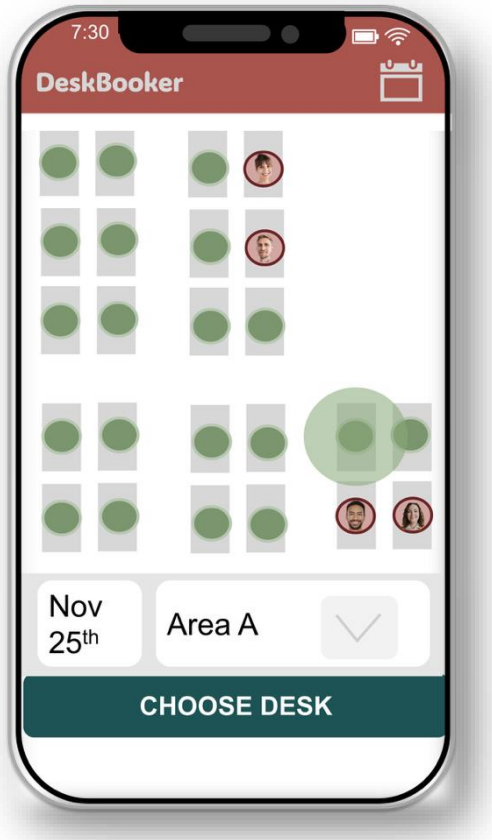
Source: Officely



Source: private collection

Presenting case

- A workplace in the Finance sector with appr. 700 employees in the headquarter
- Workspace capacity for 60% of employees in eight open-plan flexible offices
- Employees are encouraged to work remotely appr. 50% of the time
- Employees use DeskBooker



Concepts of social ties



Strong ties
Frequent interaction and mutual trust (friends)

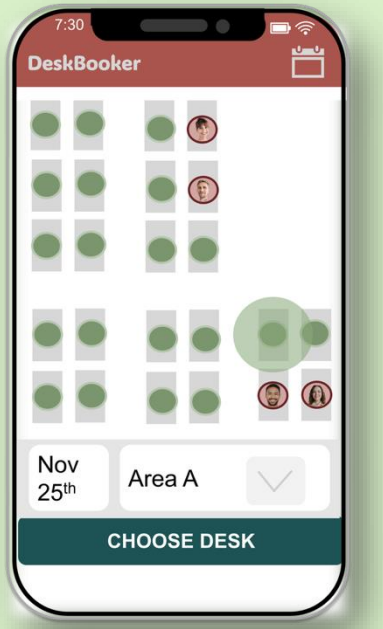
Transfer of complex knowledge and foster local in-group attachment.



Weak ties
Connect acquaintances and involve less frequent interaction

“The Strength of Weak Ties,” Granovetter (1973) :
Can diffuse information and connect otherwise separated groups

Data



25,300 desk bookings from DeskBooker:

- Employee name,
- Office area,
- desk coordinate,
- booking date (date employee goes to office to use workspace), time of booking (time employee books the workstation).

- 14 months study period
- Qualitative data: observations and interviews
- Network scientific approach





Source: Officely

Methods

- We use co-location to infer social ties
- Simulation model to infer significant ties



Methods – Simulating co-presence

- For every person p at work d days $D \in \mathbb{R}^d$ we draw d random days $\hat{D} \in \mathbb{R}^d$.
- For every pair (p_i and p_j) we calculate the overlap between the days they were actually at work (D_i and D_j), and the overlap between the simulated days ($\hat{D}_i$ and $\hat{D}_j$).
- formula for the Jaccard similarity:

$$J(D_i, D_j) = \frac{|D_i \cap D_j|}{|D_i \cup D_j|}$$

Jaccard similarity = the proportion of shared elements between two sets relative to their total elements.

- If the *actual* Jaccard similarity ($J(D_i, D_j)$) is greater than the *simulated* Jaccard simularity ($J(\hat{D}_i, \hat{D}_j)$) the pair is considered to be more than randomly present together

Methods – Simulating co-presence

- Simulation and comparison is repeated 1000 times.
- If *actual Jaccard Similarity > simulated similarity more than 990 times*

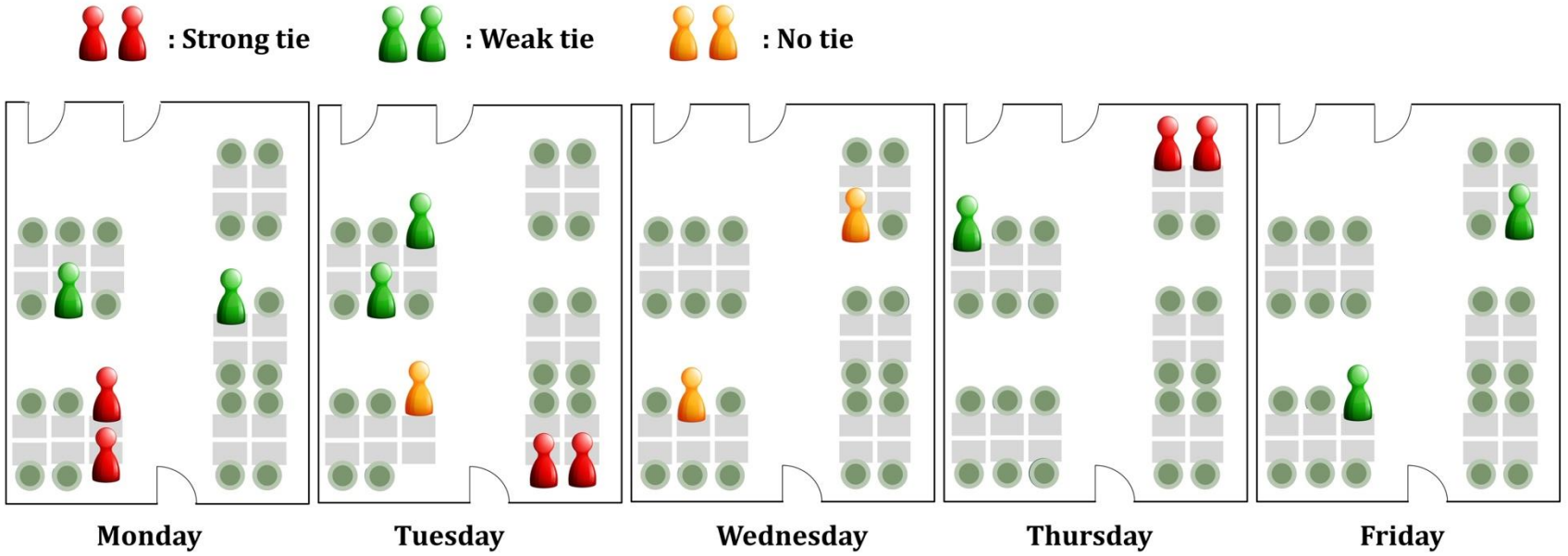
  = significant tie





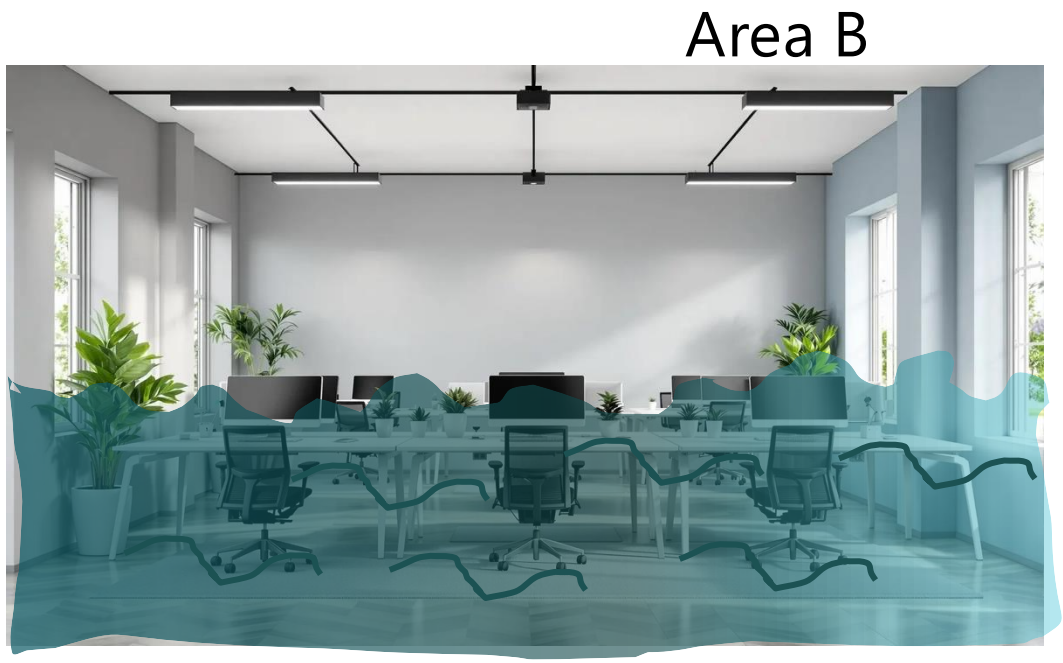
Methods – Defining weak and strong ties

- **Weak ties** are based on co-location in an office area
- **Strong ties** are based on co-location at a desk cluster
- Simulation of days, areas ad desk clusters occurs from the real distribution of the data



Methods - A natural experiment

- unexpected closure of an office area – an exogenous shock
- Forces employees to decide anew
  where to sit
  with whom to sit
  and whether to come into the office at all
- Prism into understanding how relations work at the hybrid workplace with flexible offices



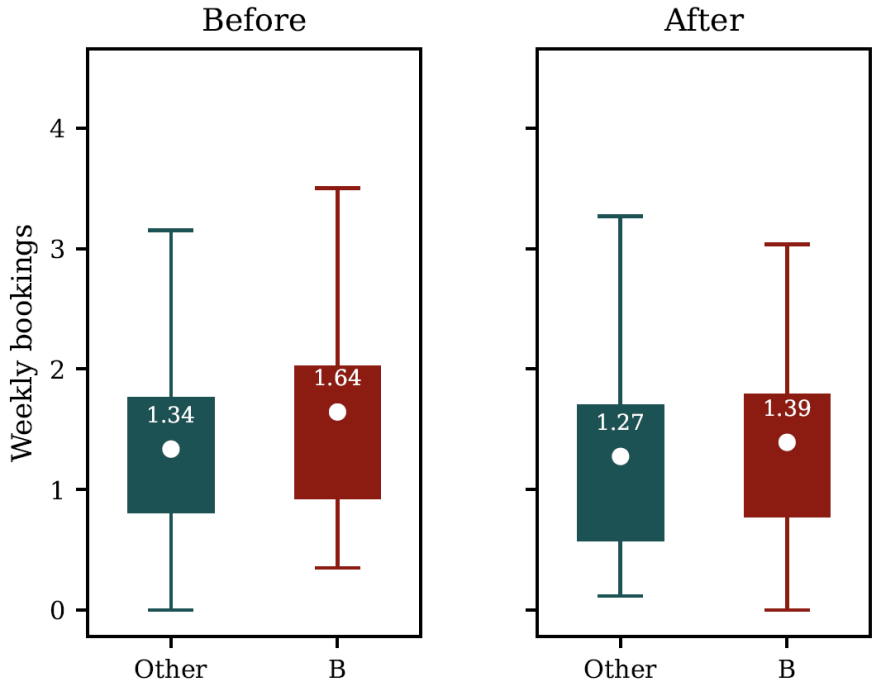
Source: Officely

Results



- Total of 10495 significant weak ties and 2208 significant strong ties across all 540 employees
- Employees have 39.6 weak ties and 8.3 strong ties on average
- Employees continue to come the office





The effect on social ties

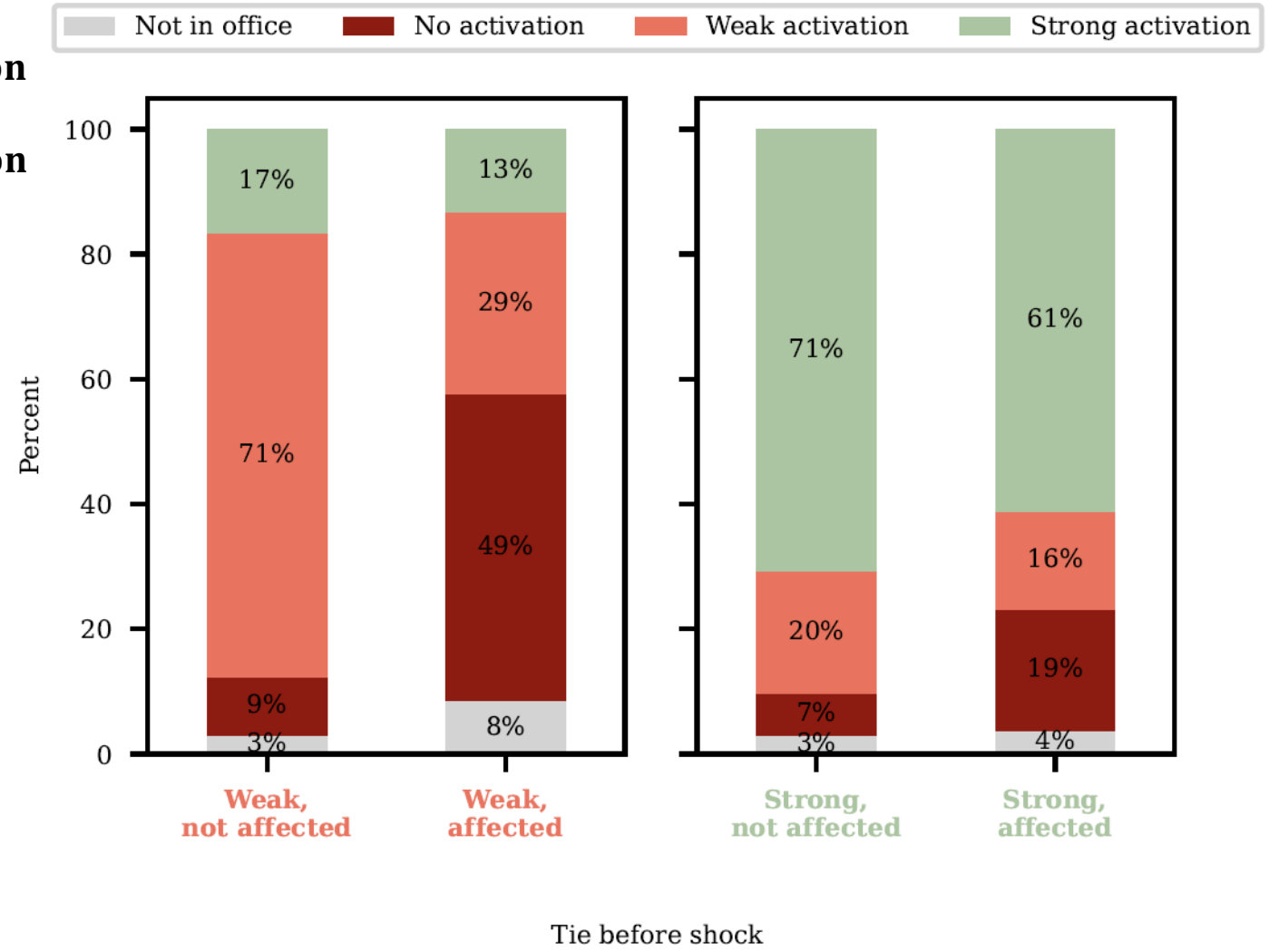
- Co-locations at same desk cluster = **Strong activation**

  Co-location at the same office area = **Weak activation**

- Affected employees with week ties rarely meet after the disruption

- Affected employees with strong ties continue to share desk clusters

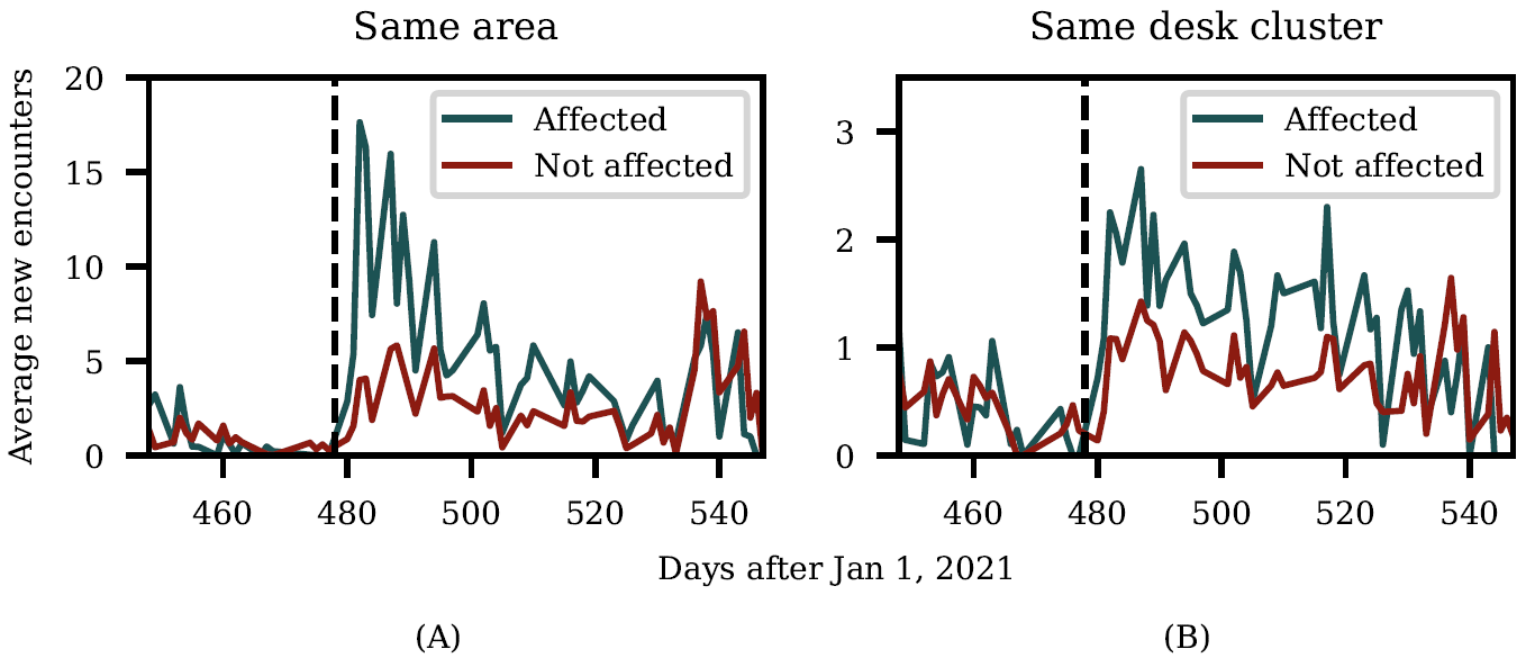
Share of activations for ties within 60 days after the disruption



New encounters after the shock

- Before disruption employees had 0.53 new desk cluster encounters and 3.4 new area encounters on average

- Affected employees experience surge in new encounters to 1.4 at their chosen desk cluster and 5.95 in their chosen area.



Concluding remarks



- Spatial disruption distorts the composition of ties
- **Limitation:** case study of a specific spatial arrangement shaped by Danish context.
- **Theoretical main contribution:** strong and weak ties at work have different robustness to spatial changes.
- **Overall:** The study indicates that strong social ties are important in hybrid work.

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