

# Network Spillover Effects in Violence Reduction

George Wood and Andrew Papachristos, Yale University

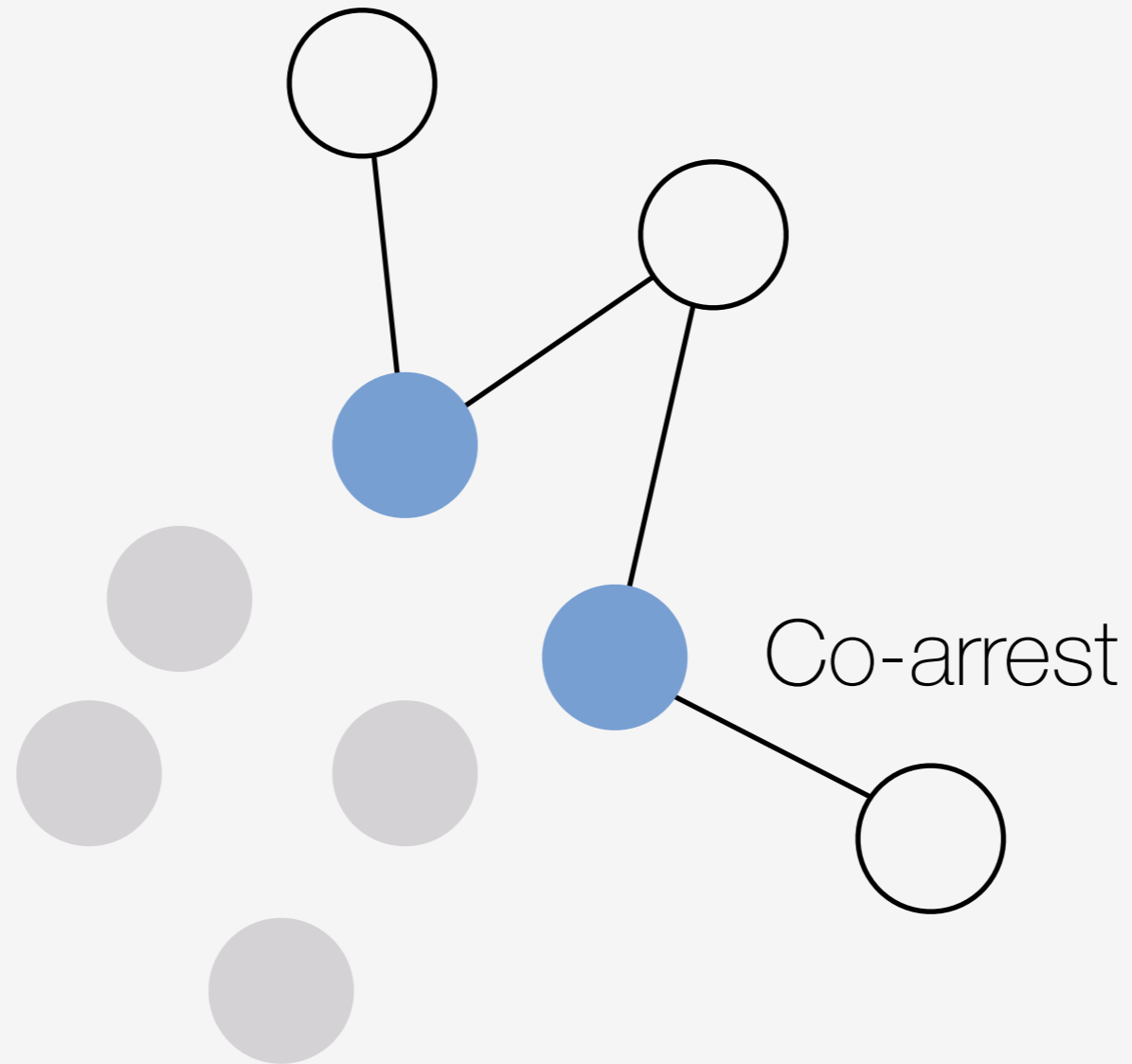
Yanick Charette, Laval University

# VRS: Non-Random Assignment

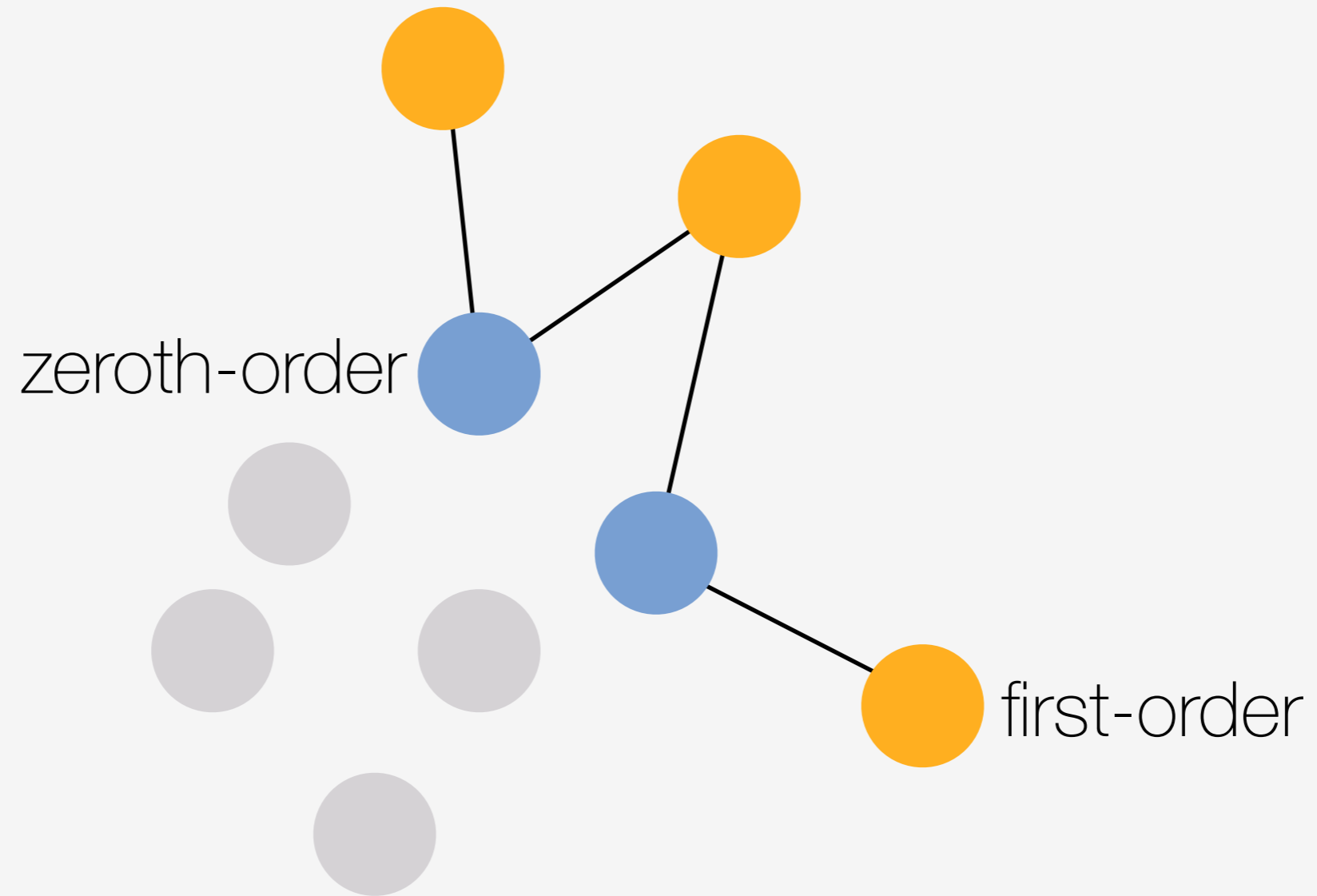


Individualized message

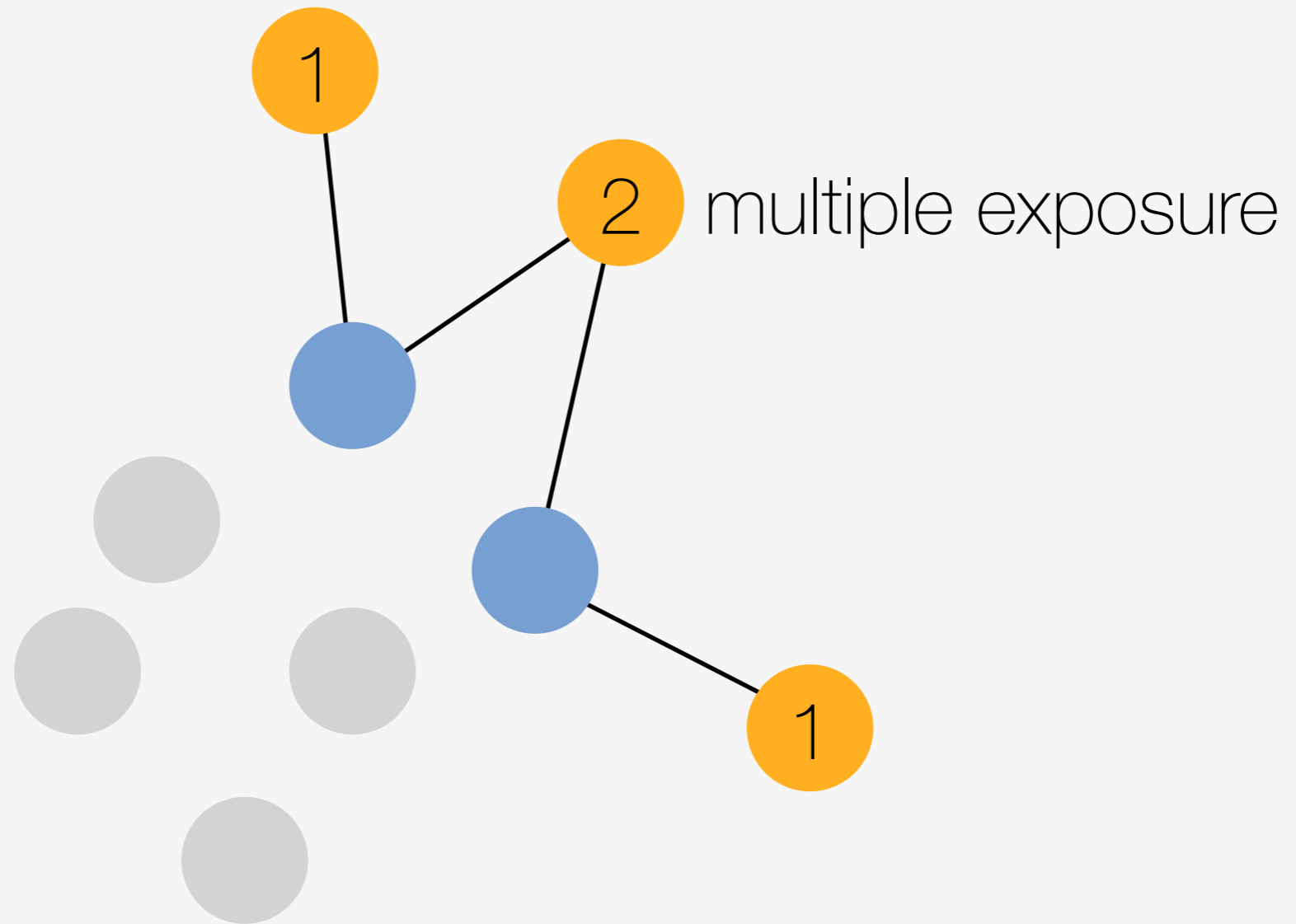
# VRS: Network Setting



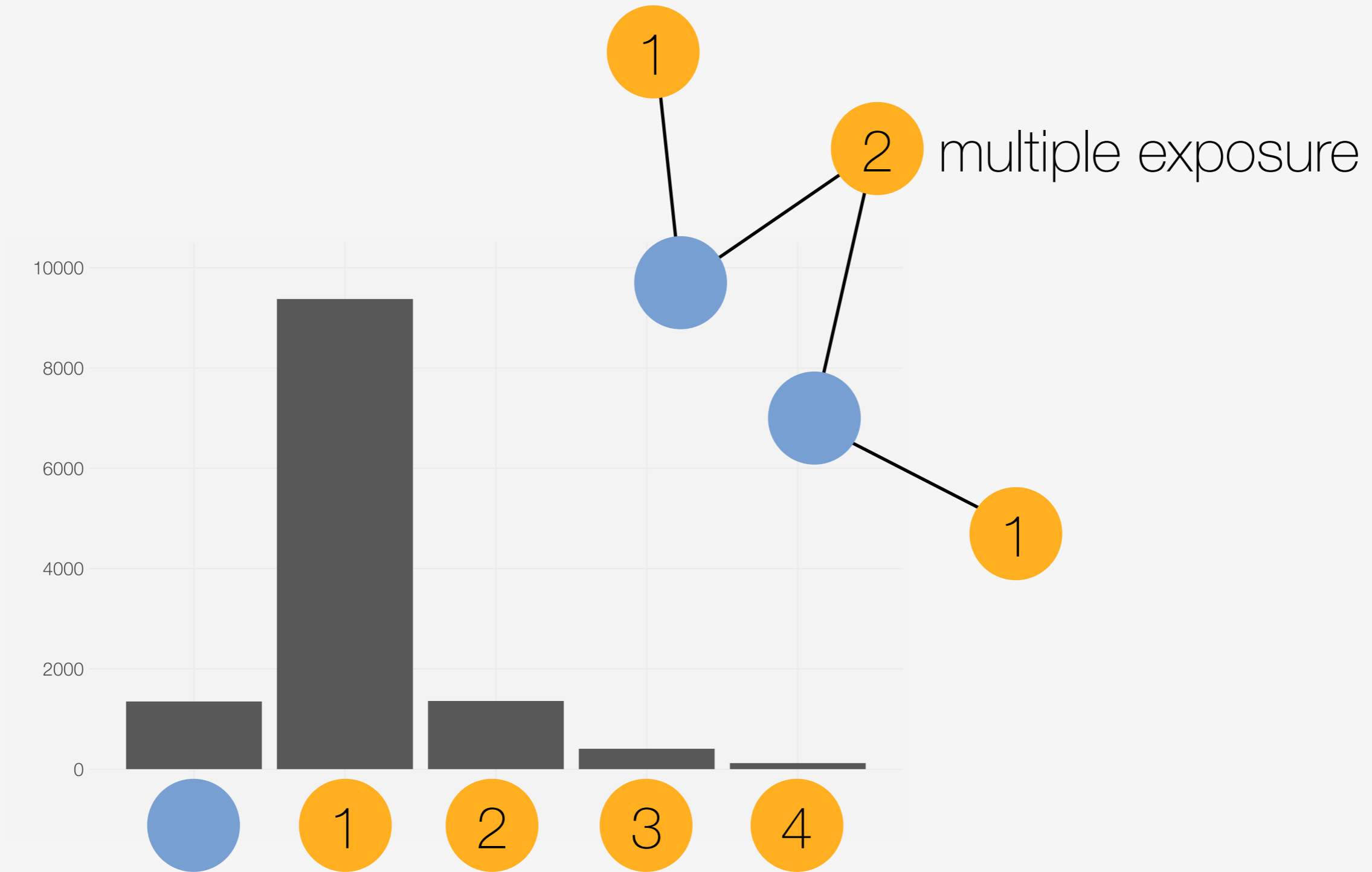
# VRS: Network Setting

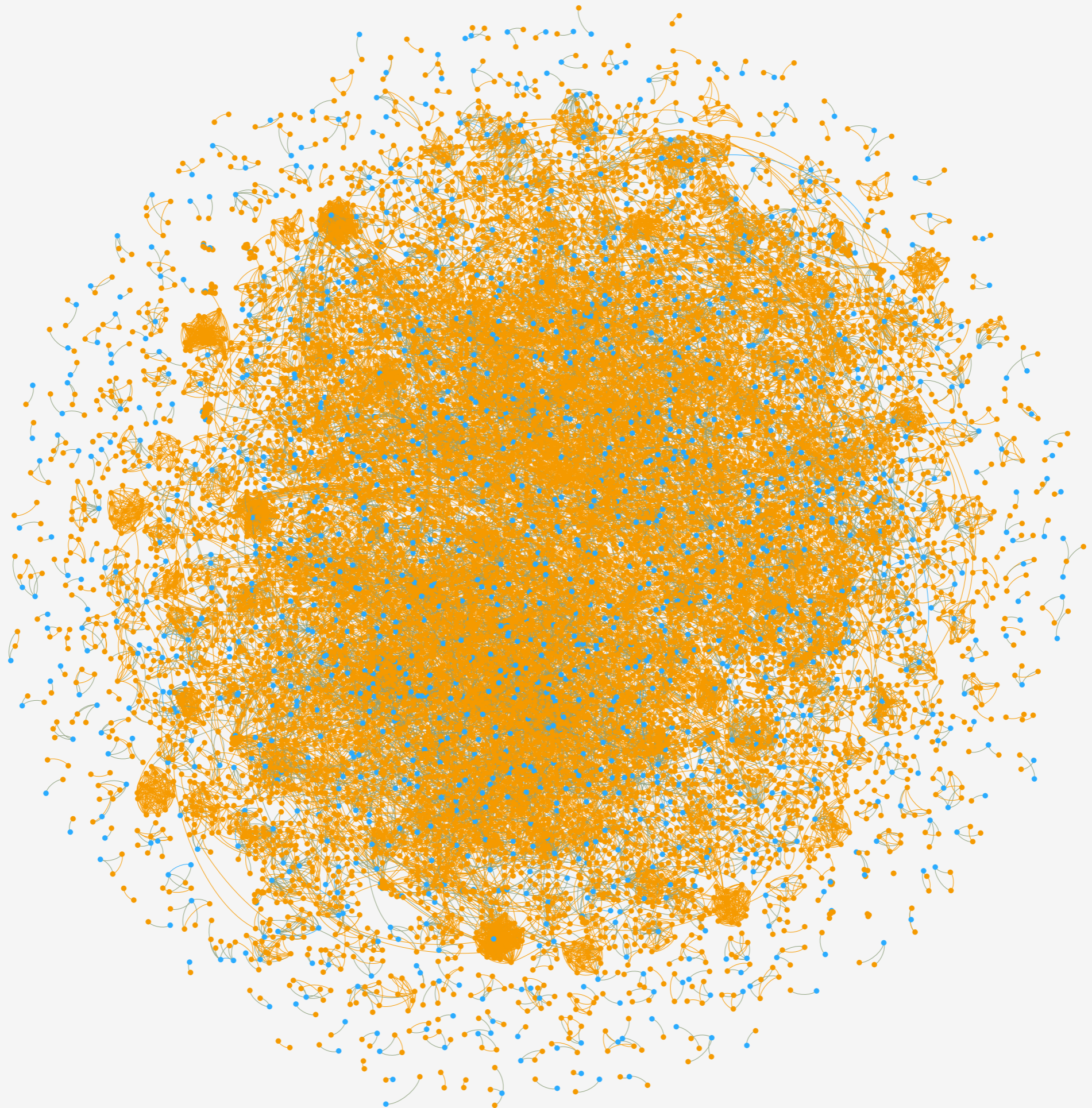


# VRS: Network Setting



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# Coarsened Exact Matching

exposed



unexposed

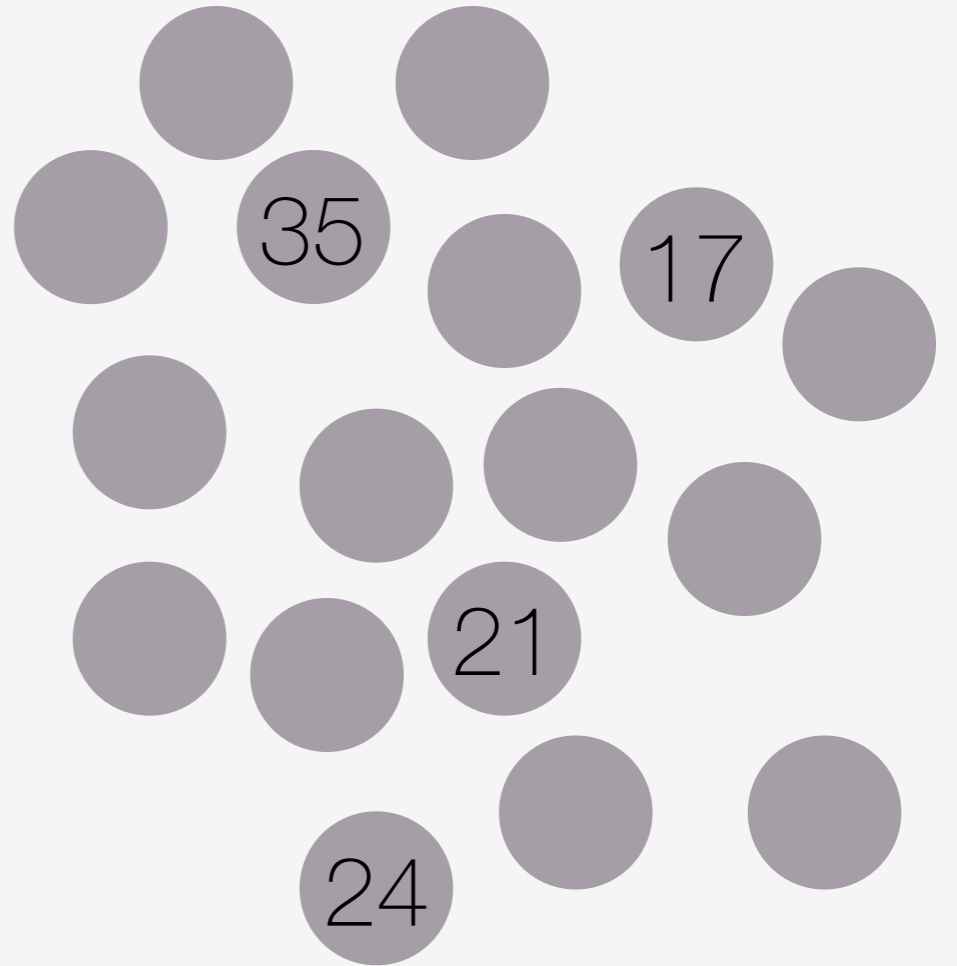


# Matching

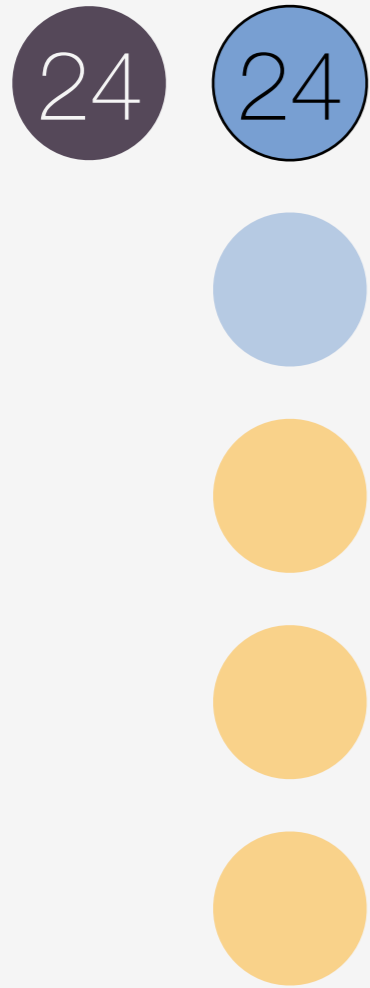
24



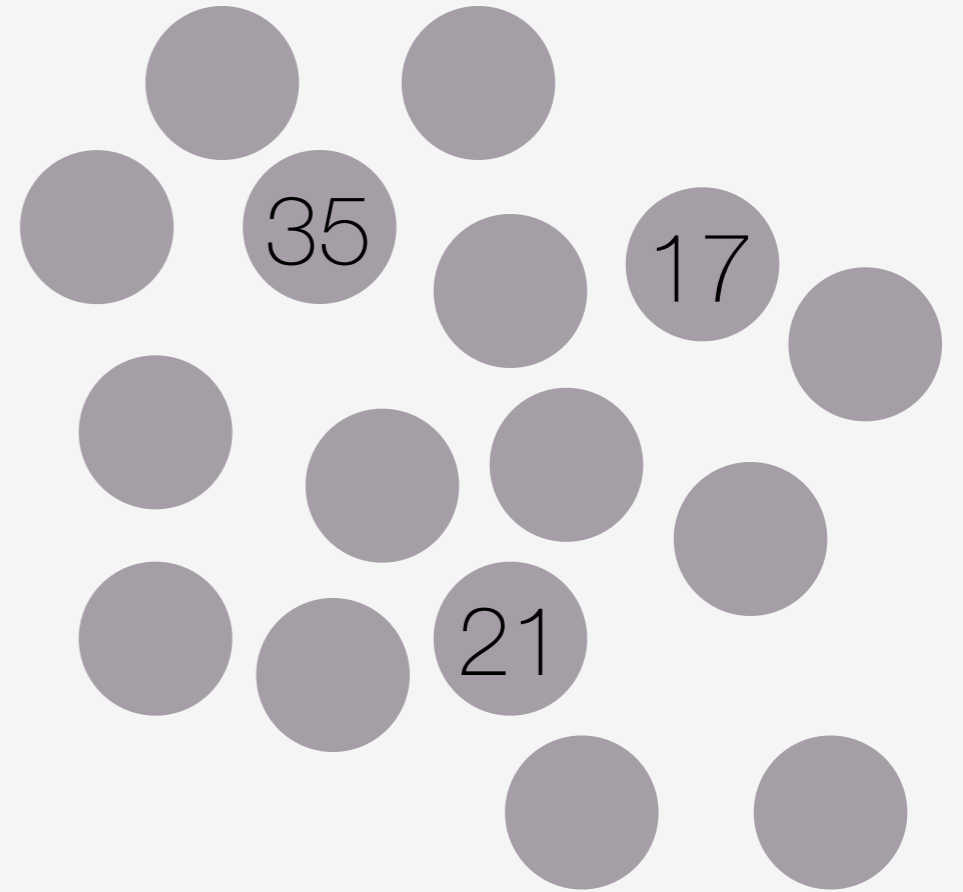
age



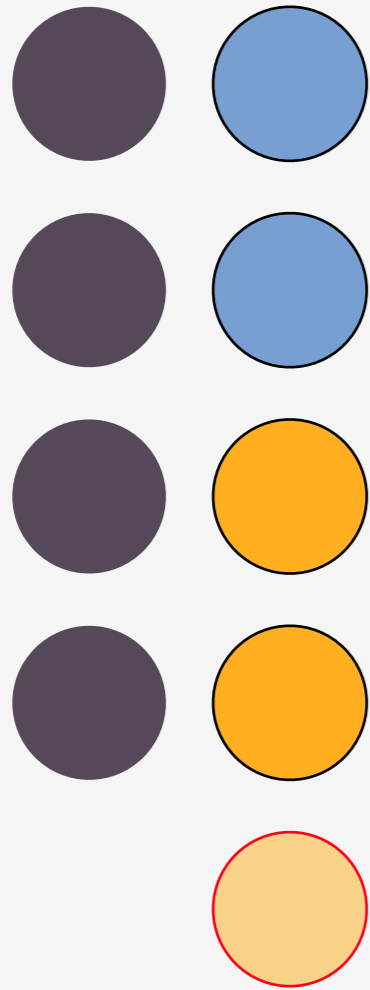
# Matching



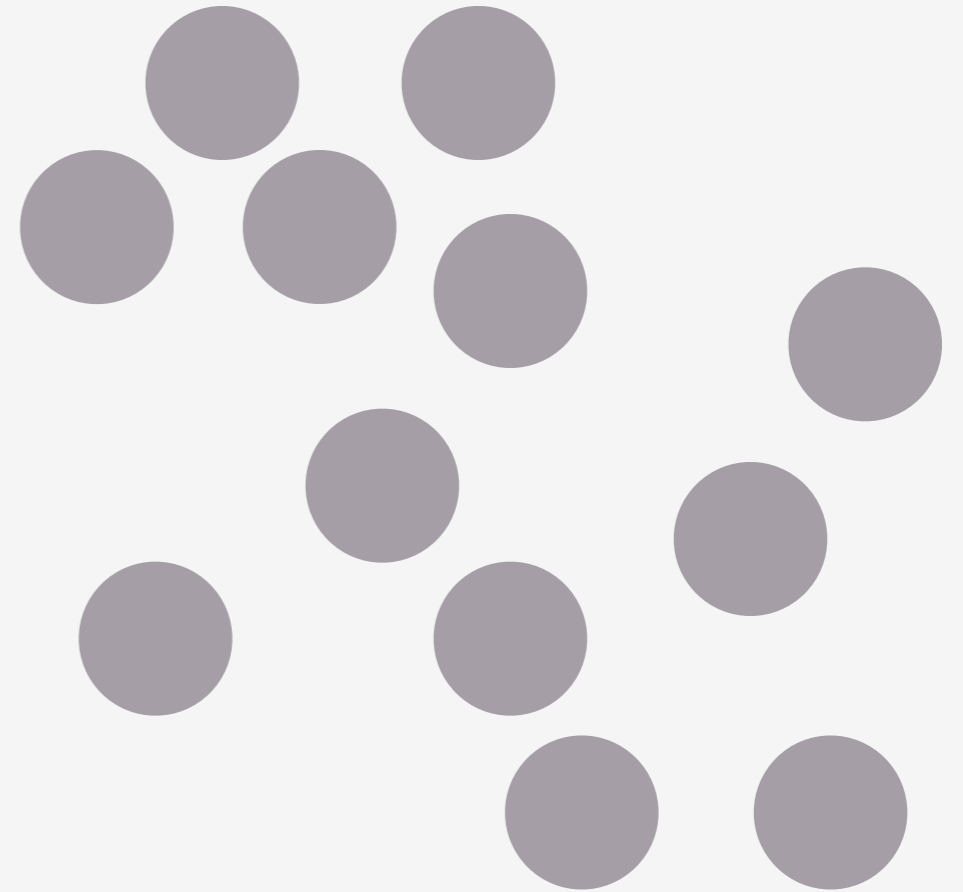
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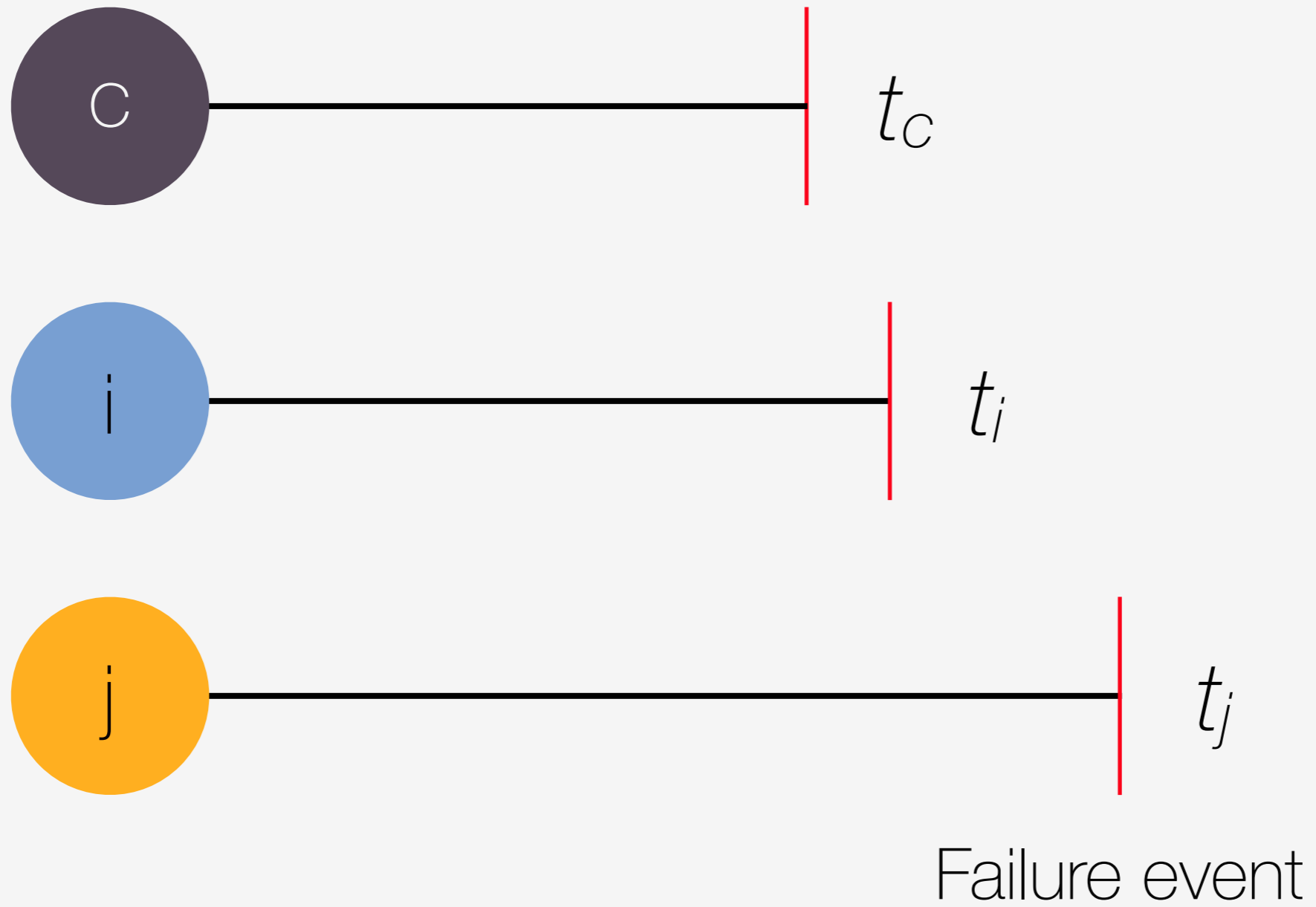
# Matching



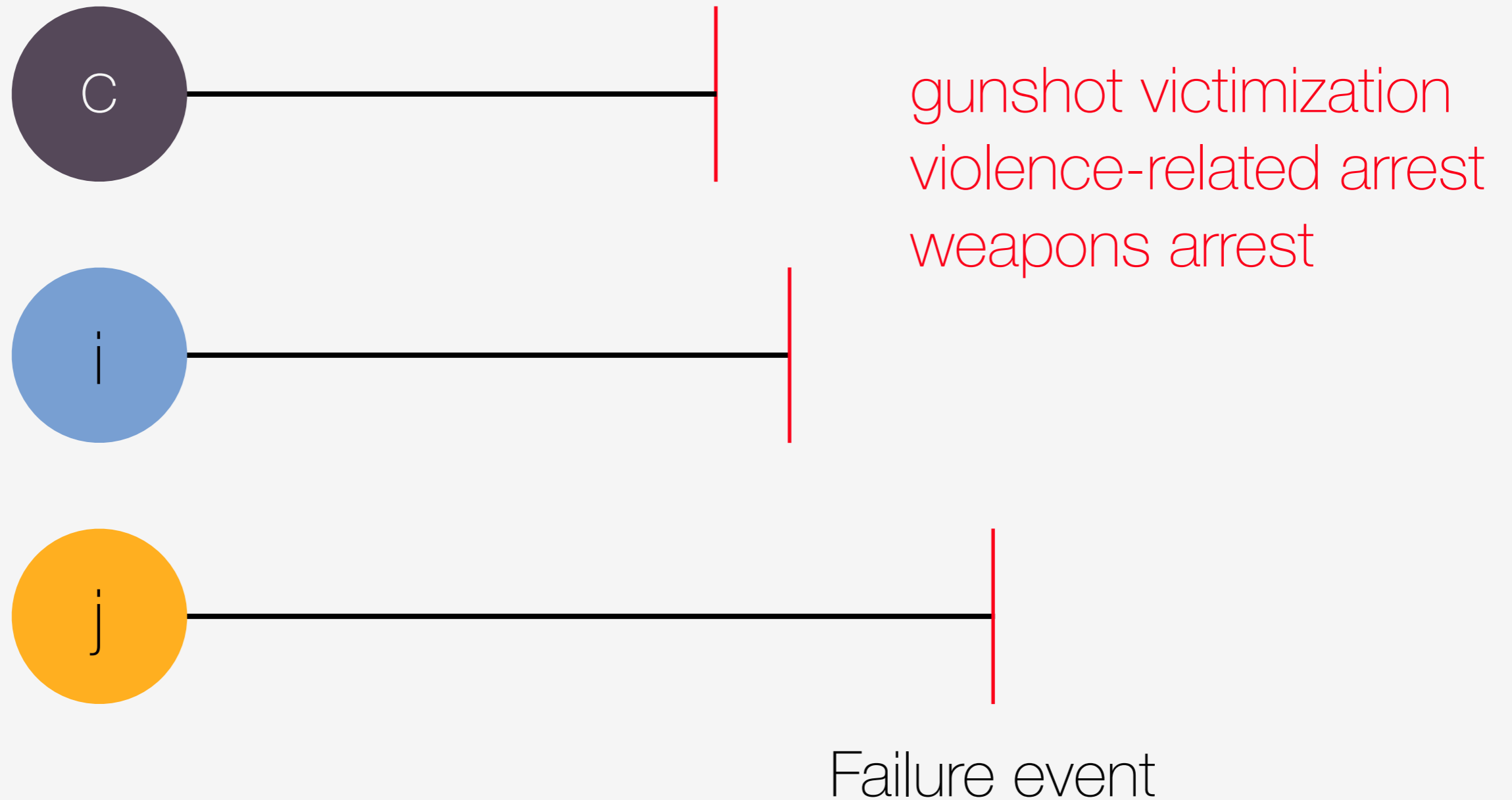
age  
race & ethnicity  
gender  
gang  
prior non-fatal victimizations  
prior violence-related arrests  
count of co-arrestees



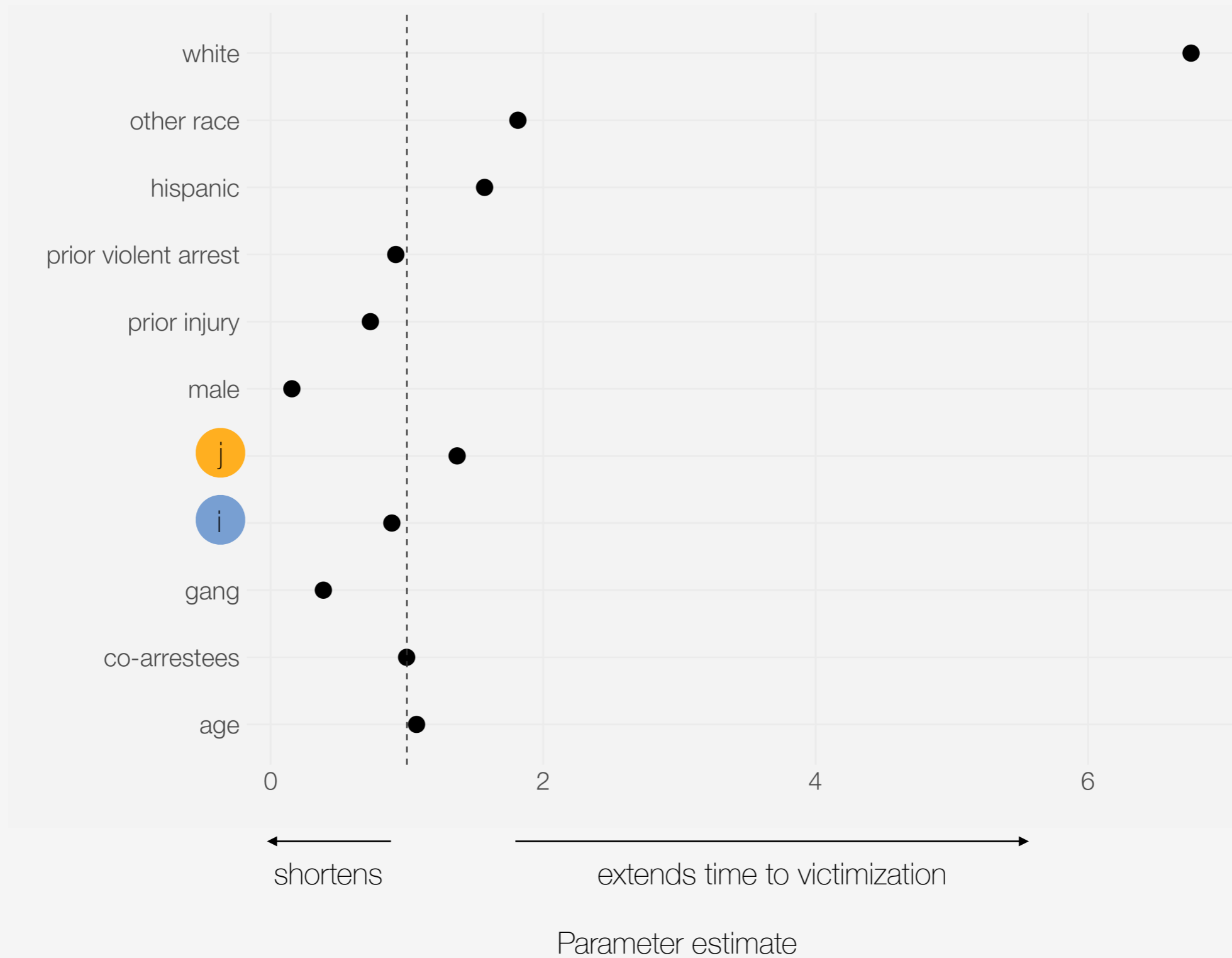
# Accelerated Failure Time Model



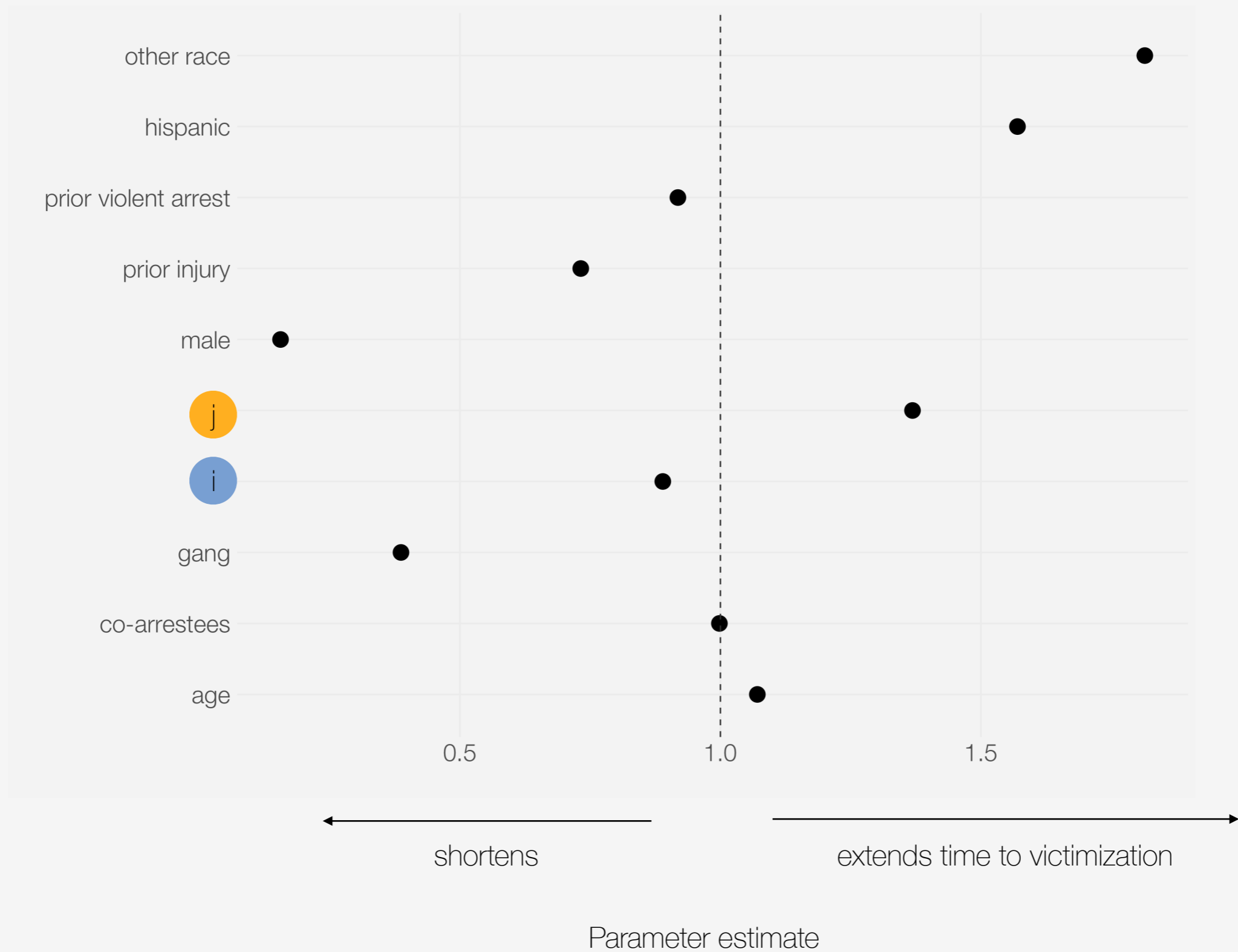
# Accelerated Failure Time Model



# Results: Gunshot Victimization

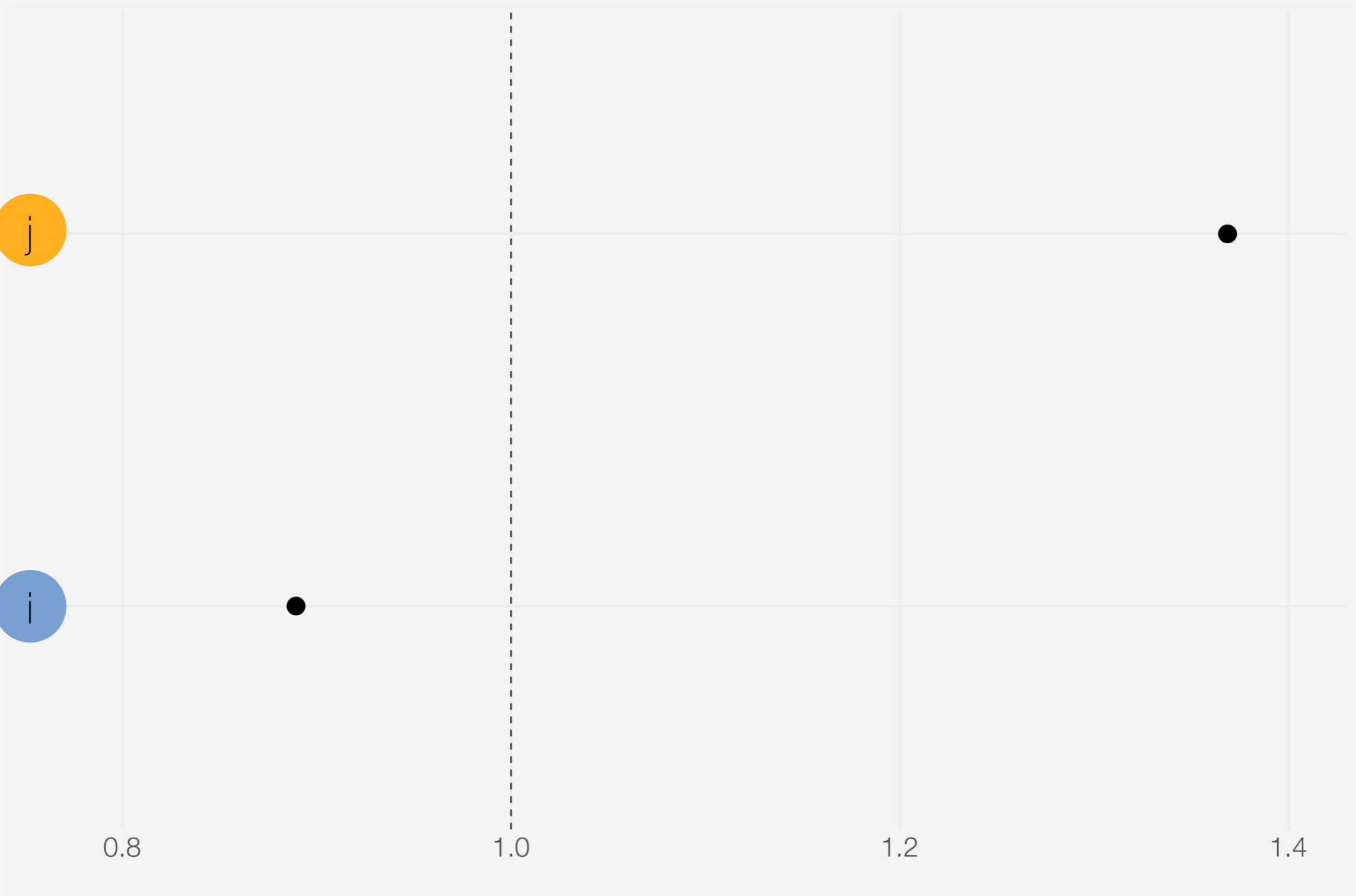


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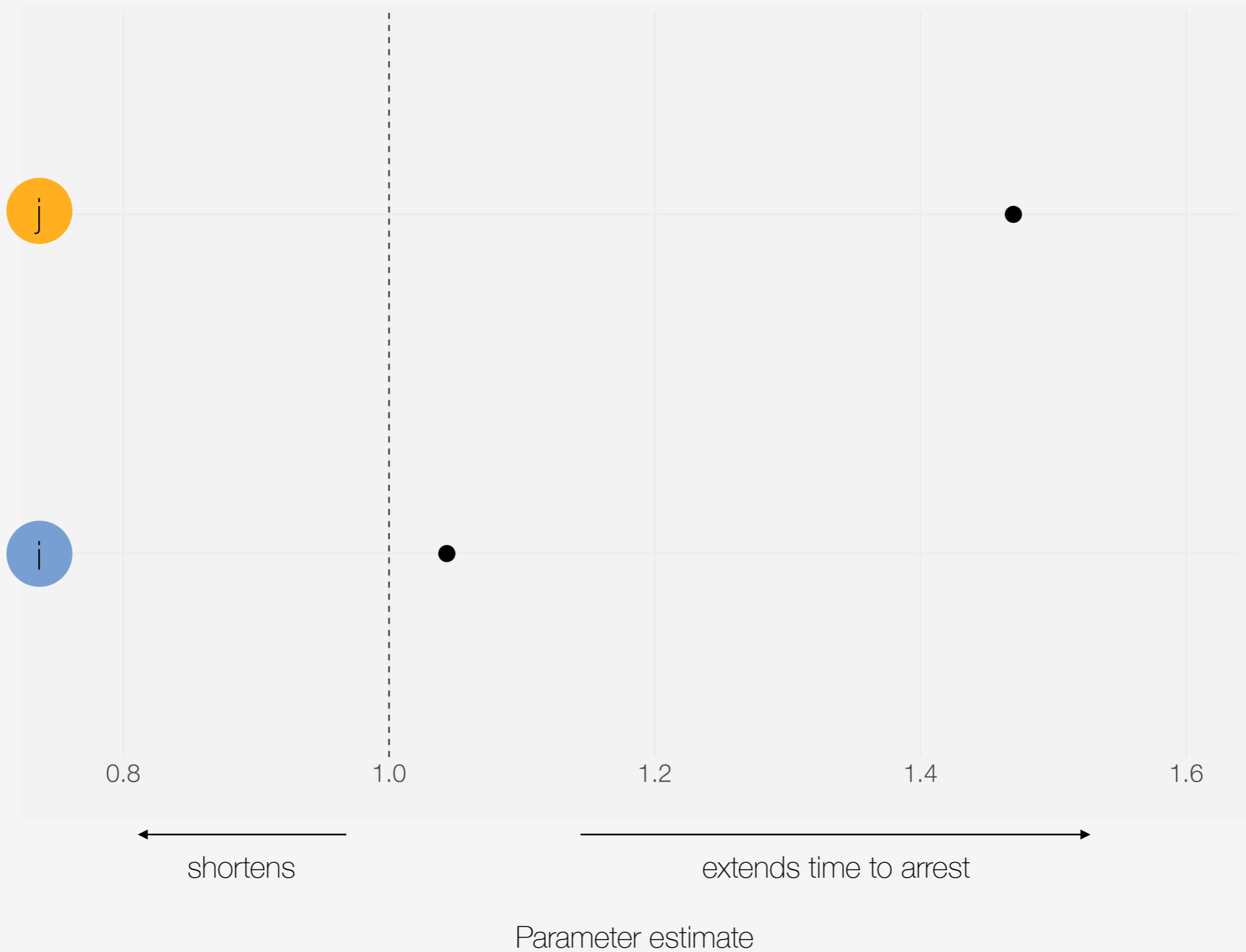


← shortens

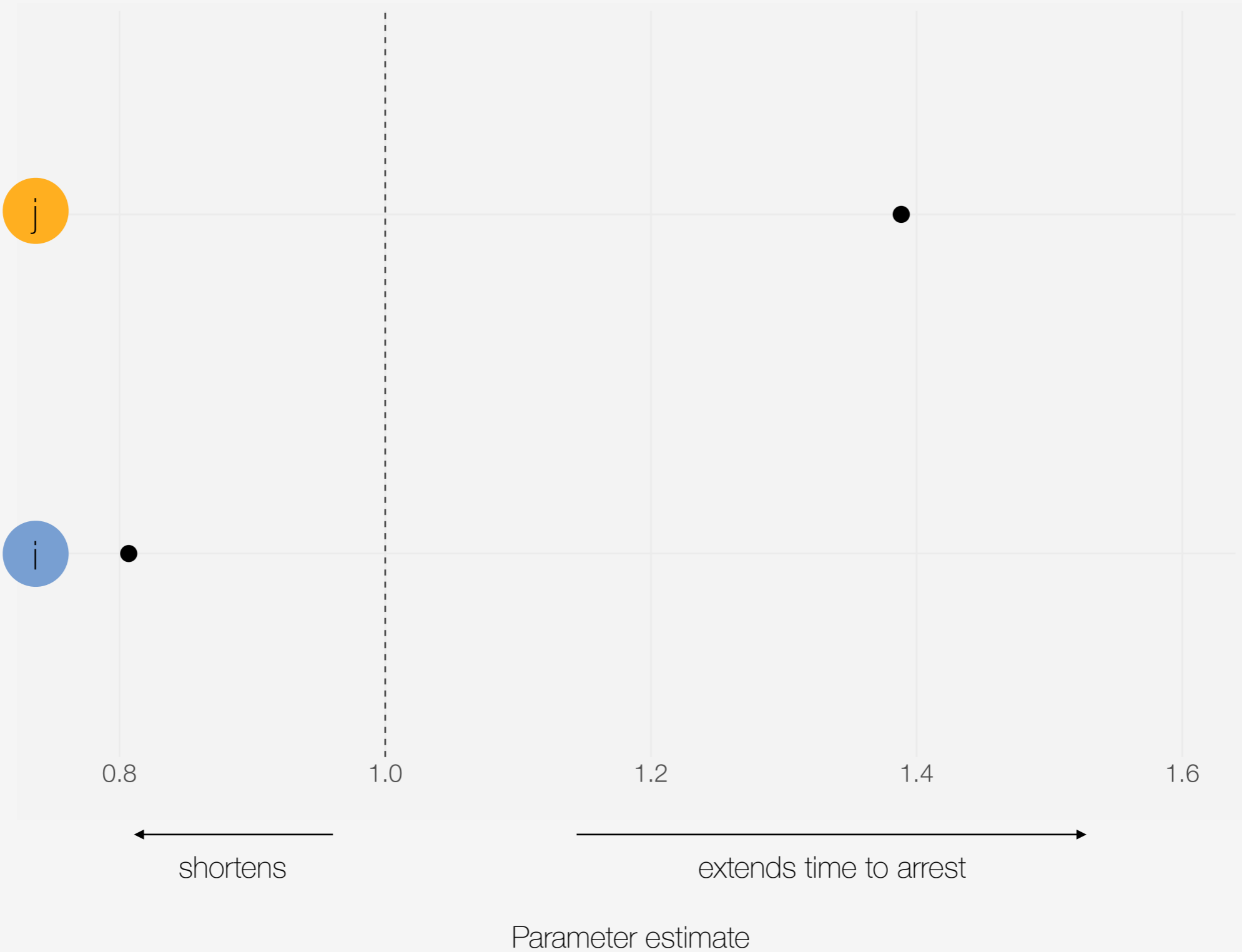
→ extends time to victimization

Parameter estimate

# Results: Violence-Related Arrest



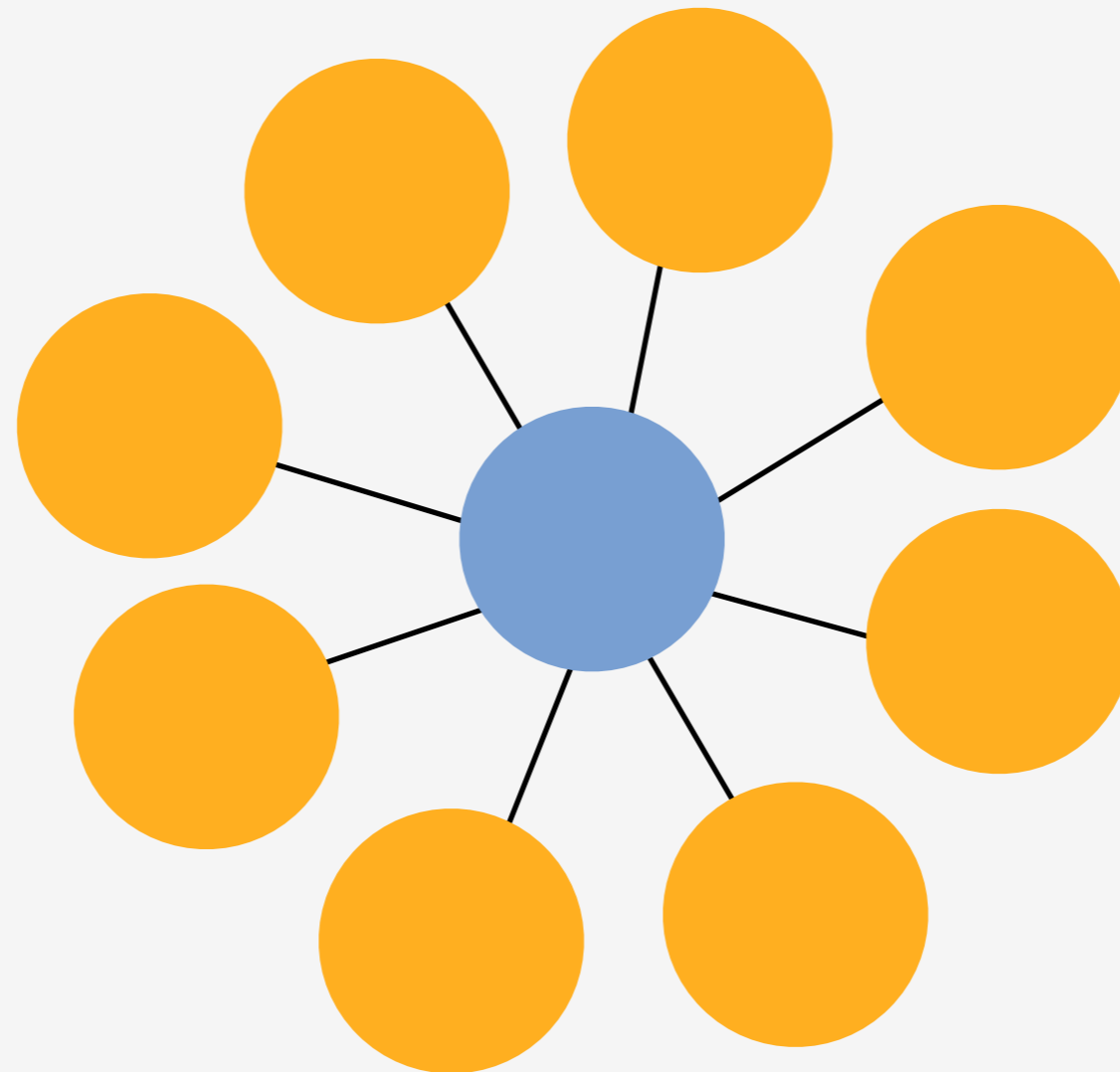
# Results: Weapons Arrest

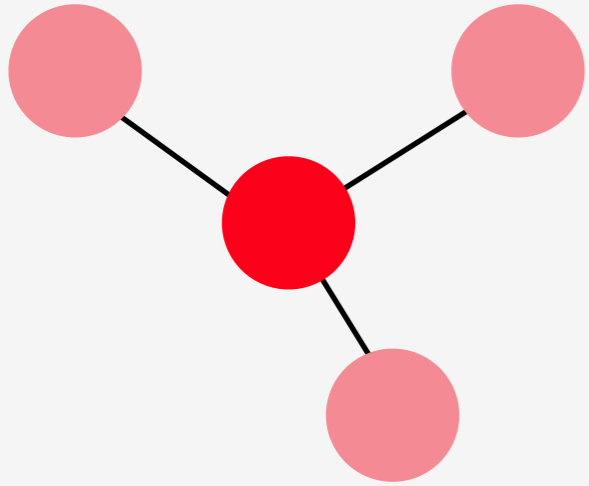


For every **1**  $i$  node



about **7.9**  $j$  nodes are potentially exposed

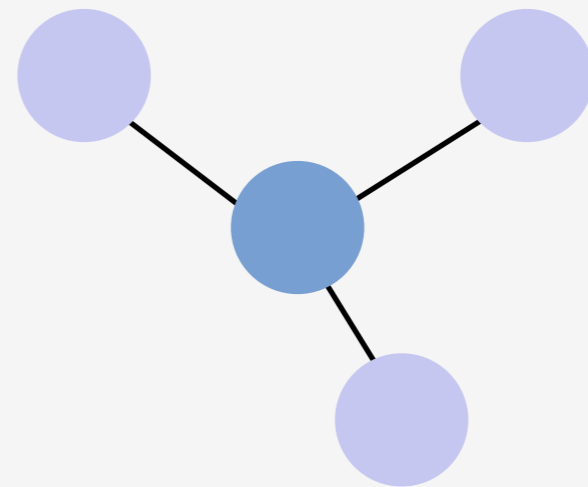




victimization cascades

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victimization **reduction** spills over





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