

# TDS dyads to co-investigate sensation and liking changes



**John C. Castura**  
Compusense Inc.



**Moyi Li**  
University of Guelph



# *Temporal Dominance of Sensations*

Permits selection of the dominant attribute, which is updated over time.



I notice **Cream** in this flavored fresh cheese. The dominant attribute is now **Salty**. Now **Garlic**. **Cream** dominant. Now **Garlic**. I find **Cooked Herbs**. **Salty** is noticeable again. It's **Pungent**. Now **Salty**. Now **Garlic**...

# *Temporal Dominance of Sensations*



*Cream*

*Salty*

*Garlic*

*Cream*

*Garlic*

*Cooked Herbs*

*Salty*

*Pungent*

*Salty*

*Garlic*

*Time*



Temporal methods often used for learning about products and generating hypotheses.

**What can we learn if we approach *TDS data* in an entirely new way?**

# Temporal Dominance of Sensations



Conversion of data to TDS dyads

<u>1st</u>	<u>2nd</u>	<u>Time (s)</u>
START	Cream	11
Cream	Salty	50
Salty	Garlic	76
Garlic	Cream	84
Cream	Garlic	96
Garlic	Cooked Herbs	104
Cooked Herbs	Salty	126
Salty	Pungent	153
Pungent	Salty	184
Salty	Garlic	210
Garlic	STOP	219



# ***“Reiterated dominance”***

- Assessor selects a TDS attribute
- Attribute is highlighted onscreen
- Highlighting fades
- Assessor selects the same TDS attribute again

*But:*

*Did the attribute change (in level, not kind)?*

*Does this say anything about sensory complexity?*

# *Temporal Liking*

Permits data collection of liking, which is updated over time.



**I like it slightly.  
Now I like it moderately.  
Now I like it a lot.  
Now I like it moderately.  
Now I dislike it moderately.**

# Temporal Liking

6	7	8	7	3
---	---	---	---	---

## Conversion of data to Liking dyads

<u>1st</u>	<u>2nd</u>	<u>Change</u>	<u>Time (s)</u>
<b>START</b>	6	NA	36
6	7	+1	74
7	8	+1	114
8	7	-1	128
7	3	-4	184
3	<b>STOP</b>	NA	244



# *Temporal Dominance of Sensations*



Cream

Salty

Garlic

Cream

Garlic

Cooked Herbs

Salty

Pungent

Salty

Garlic

# *Temporal Liking*



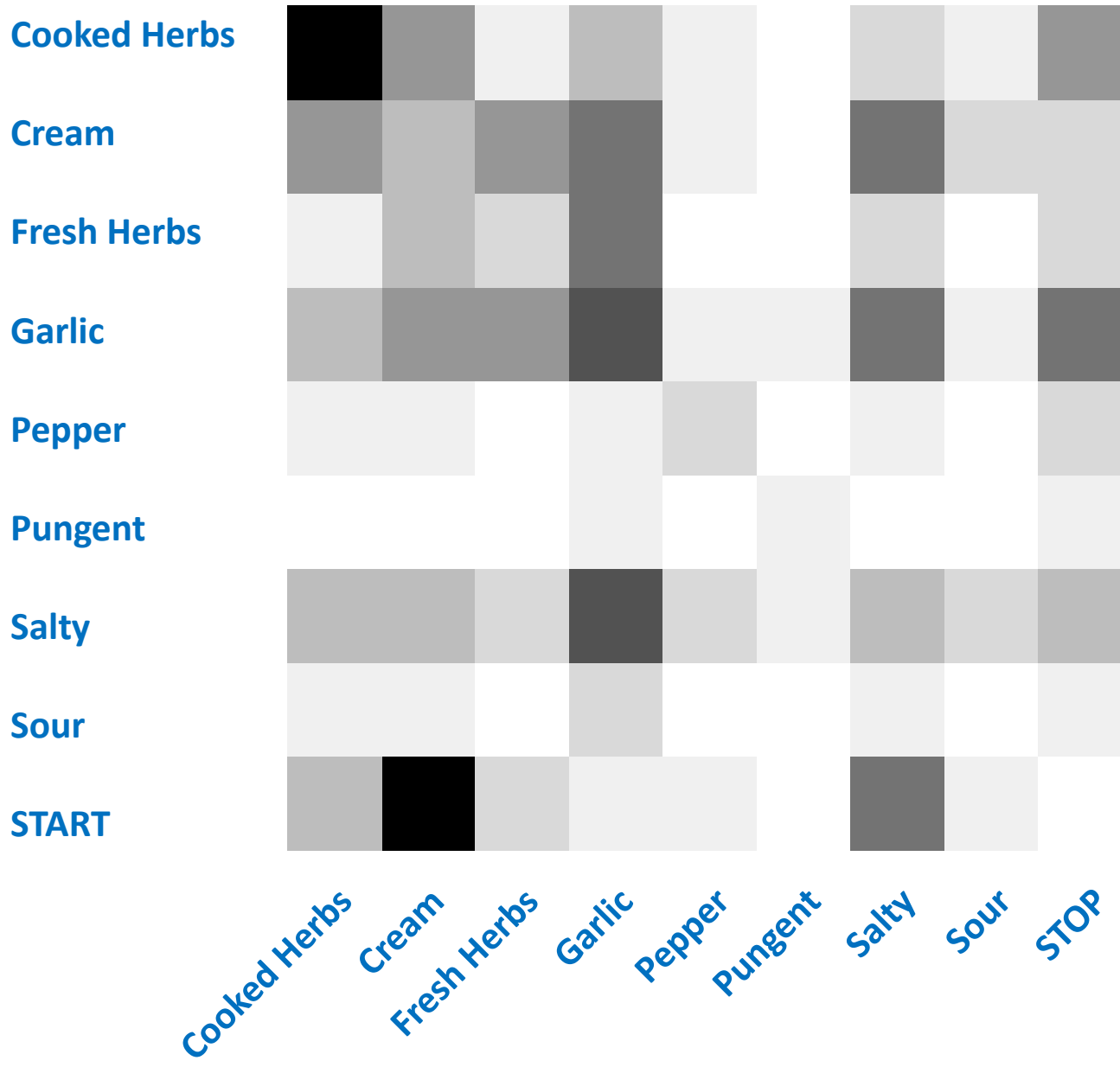
Time



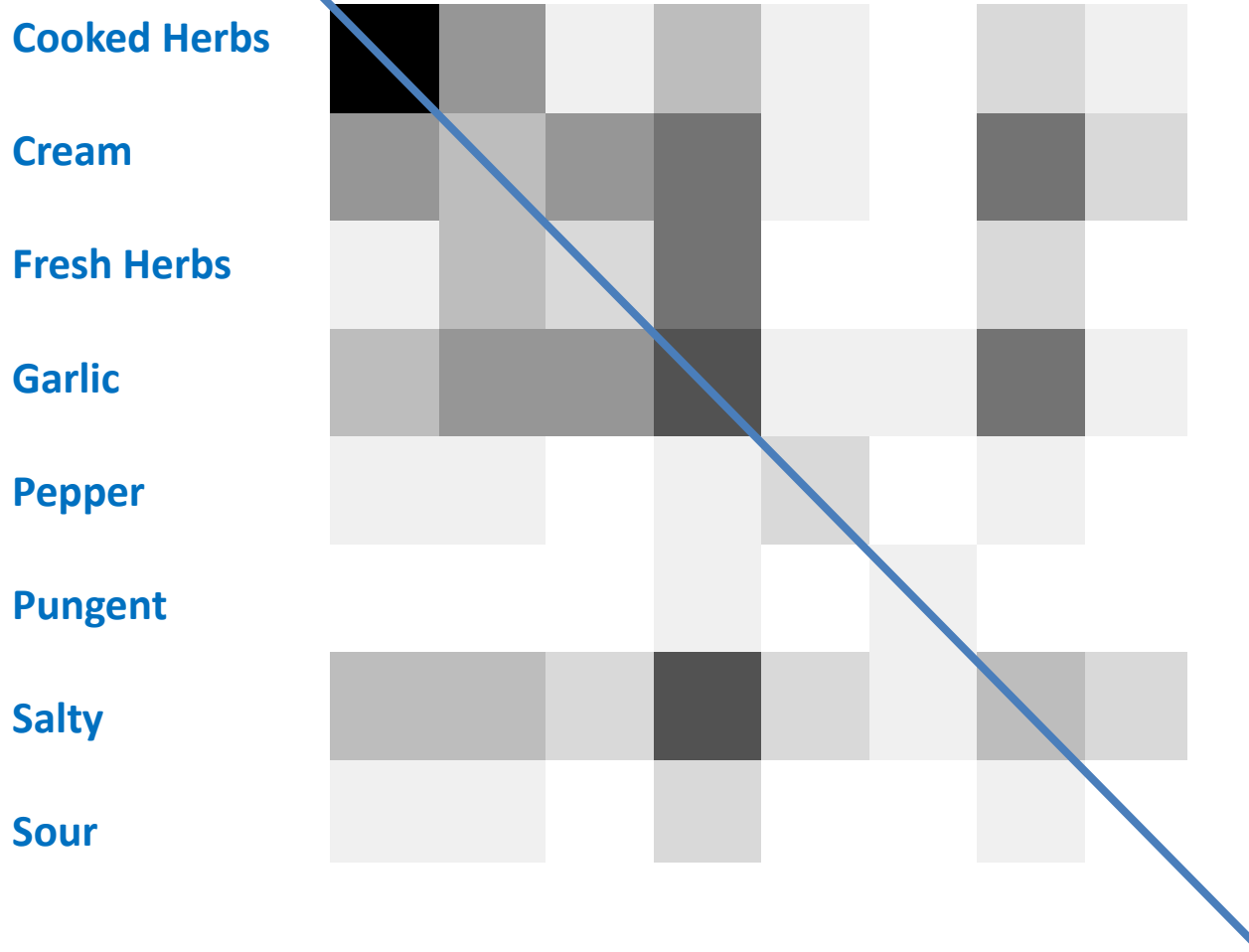
# *Temporal Dominance of Sensations*



# *TDS Dyads (citations)*



# *TDS Dyads (citations)*



Cooked Herbs  
Cream  
Fresh Herbs  
Garlic  
Pepper  
Pungent  
Salty  
Sour

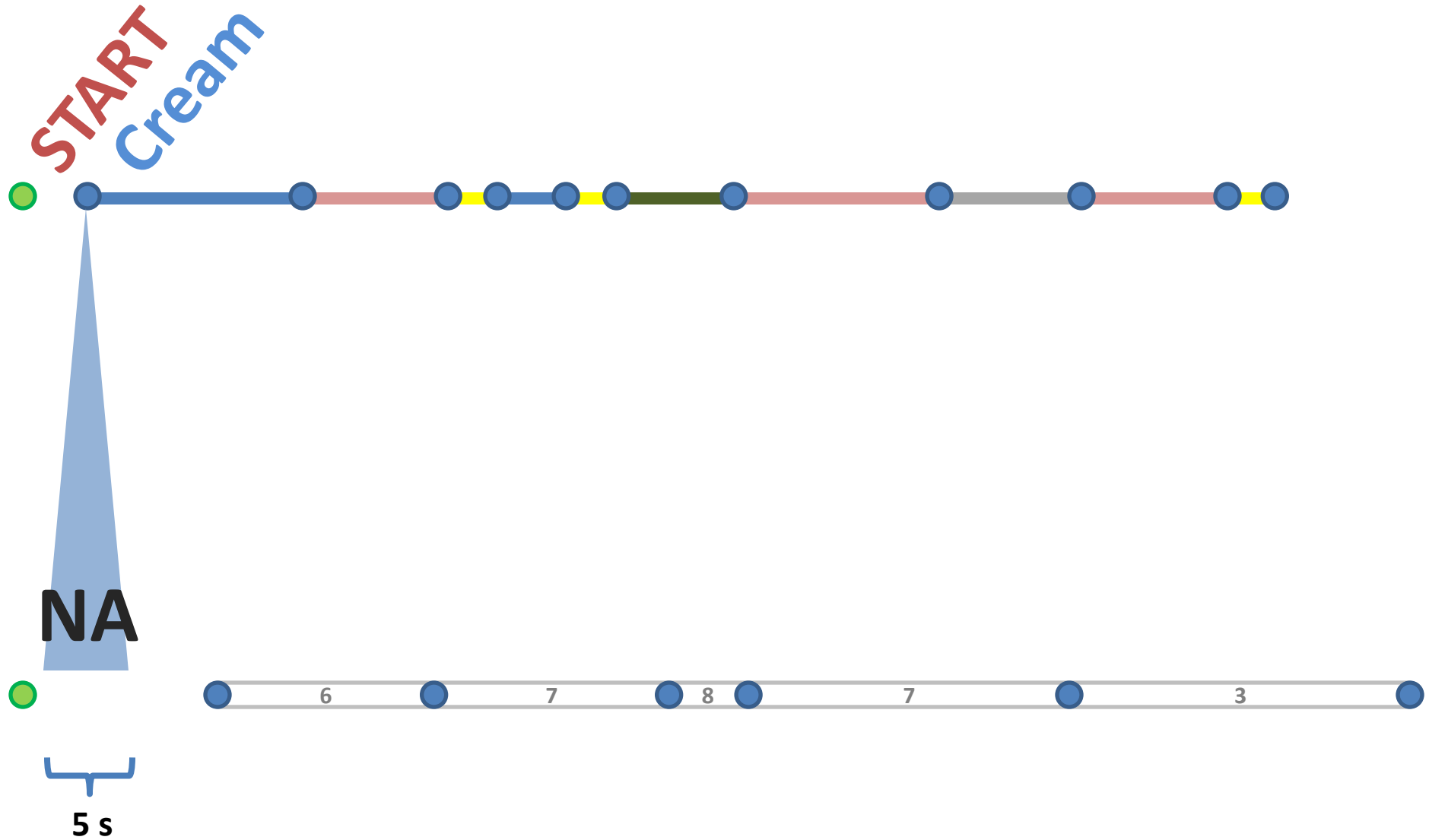
# *TDS dyads*



# *Temporal Liking dyads*

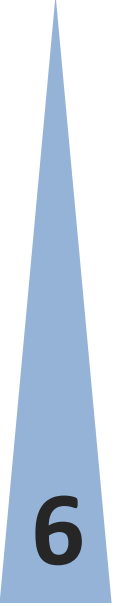


# Average Liking



# Average Liking

Cream  
Salty



6



6

7

8

7

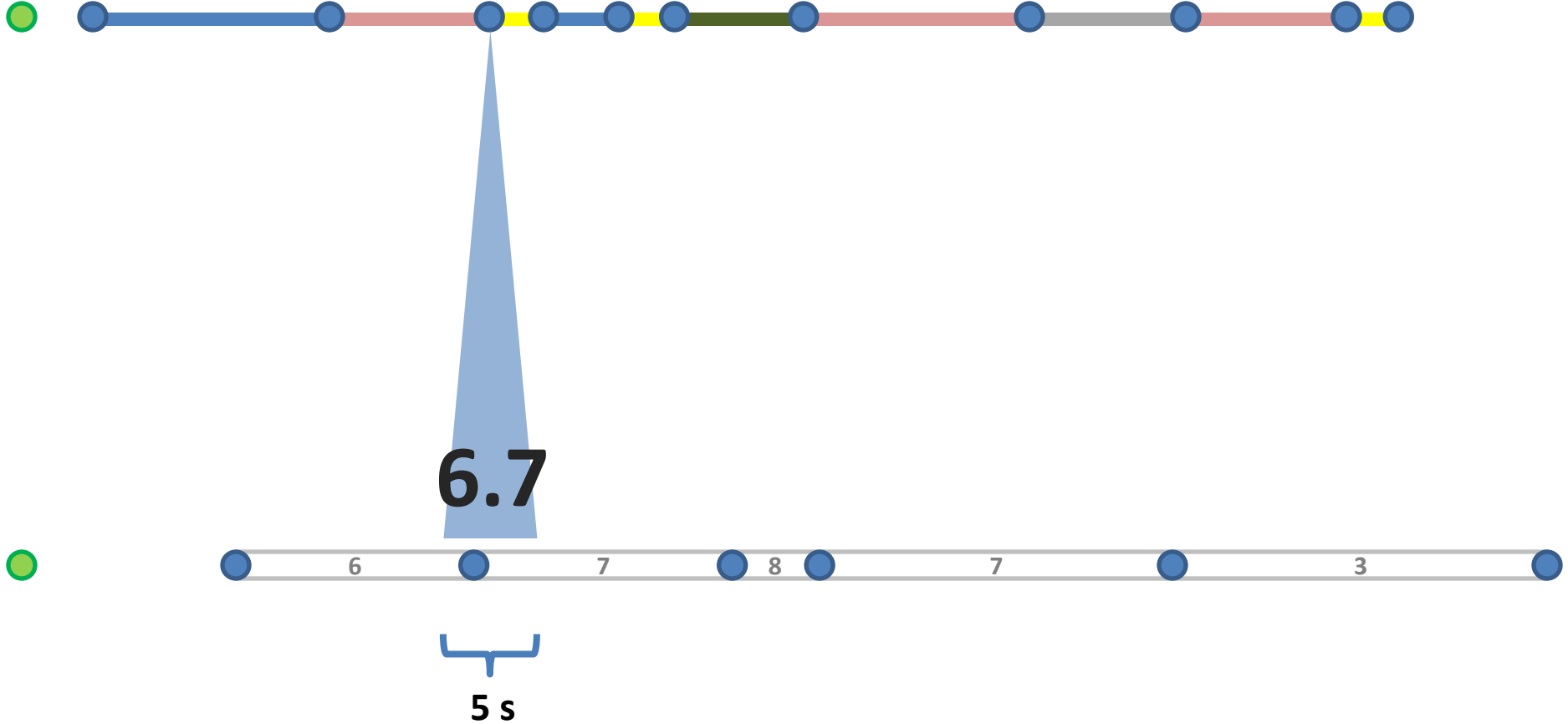
3



5 s

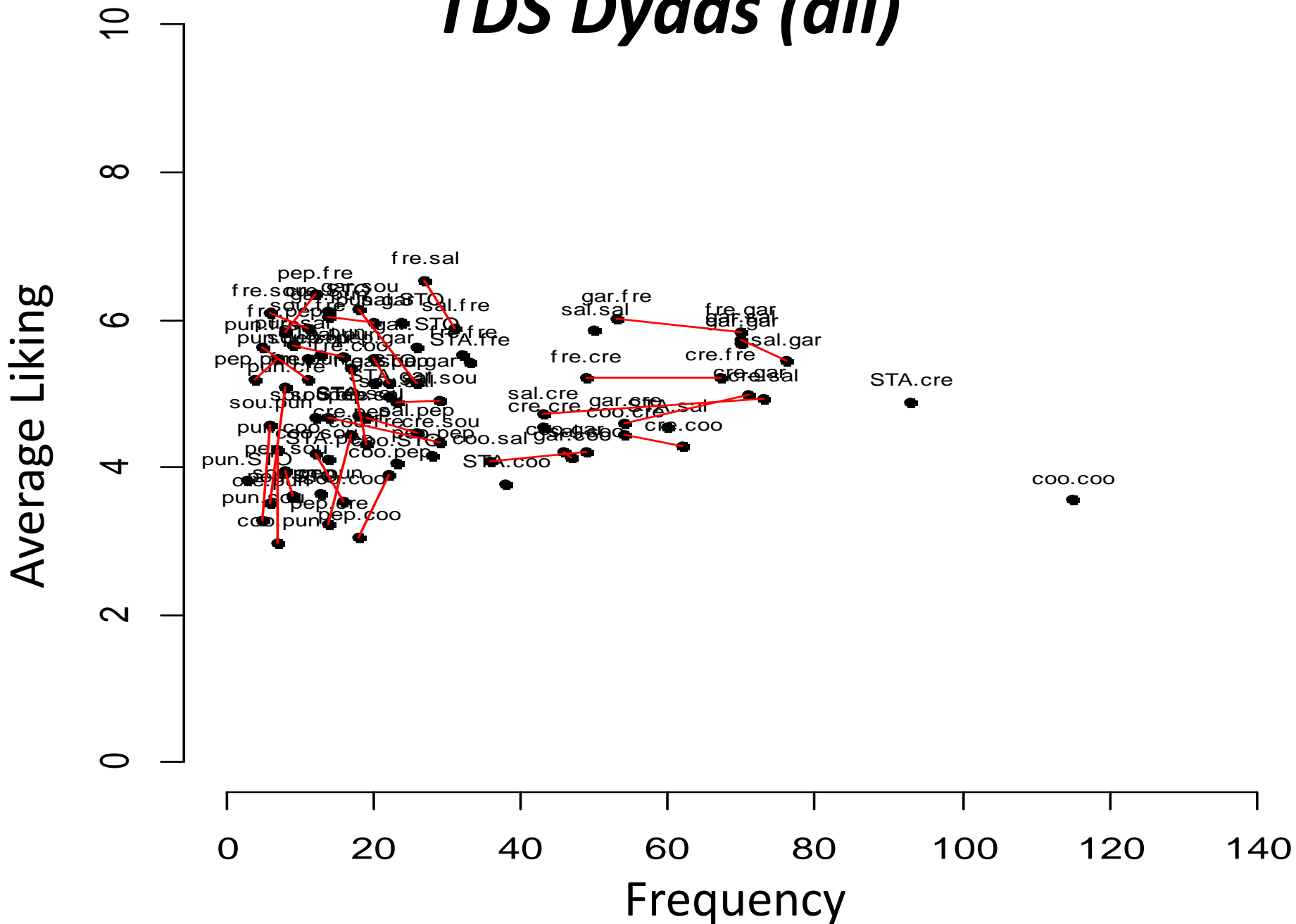
# Average Liking

Salty  
Garlic

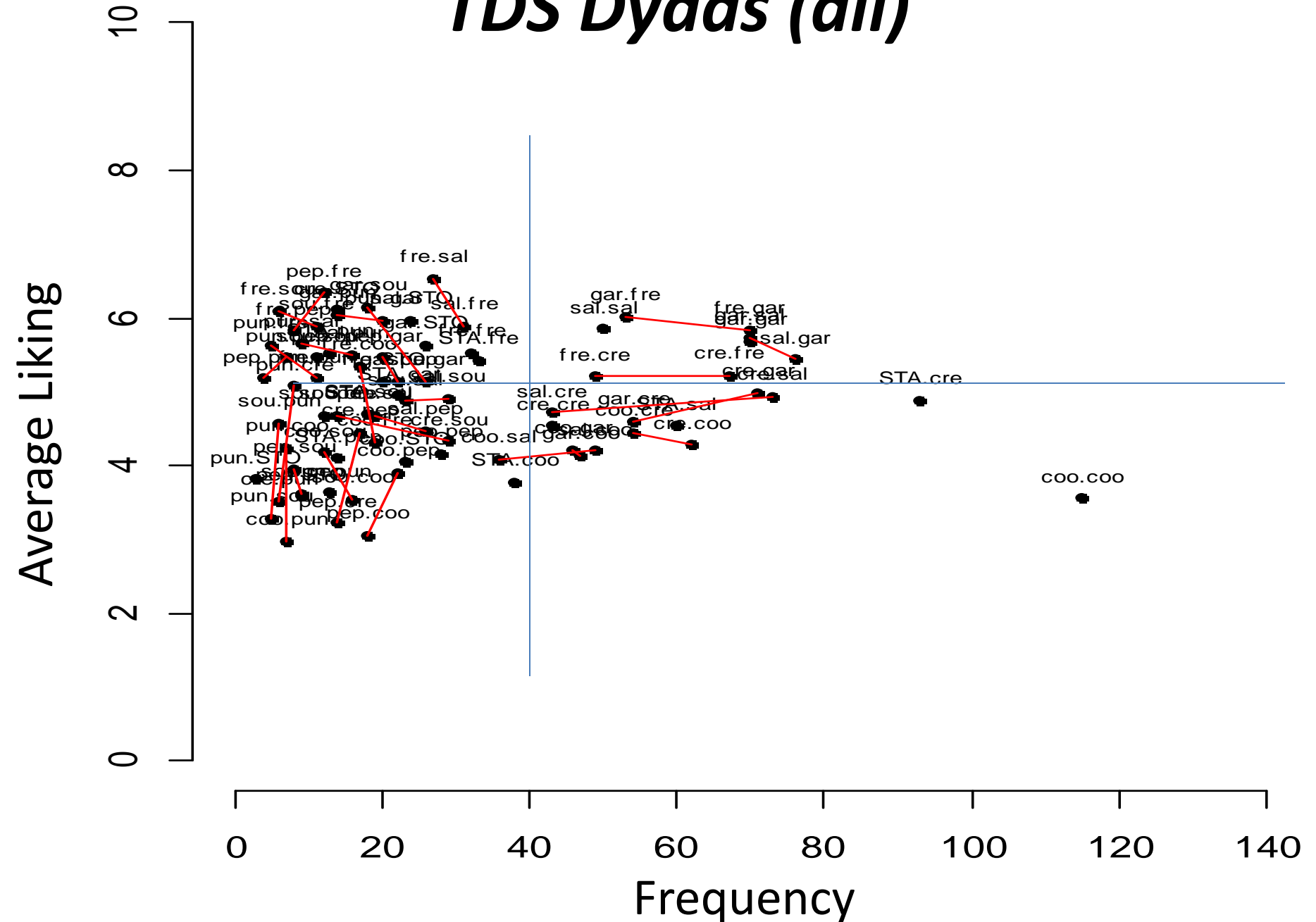




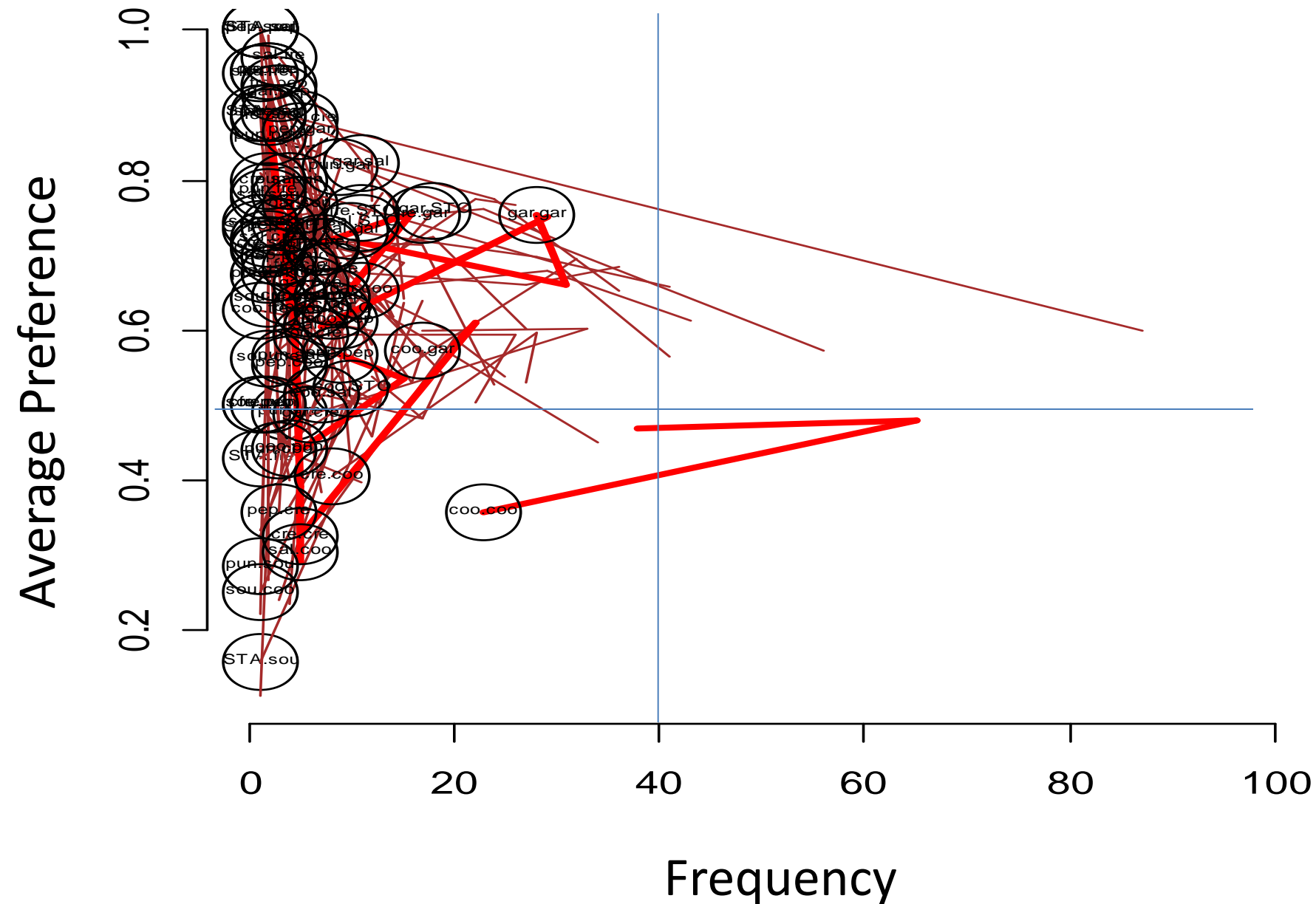
# TDS Dyads (all)



# TDS Dyads (all)



# *TDS Dyads (3 time periods)*



# Conclusions about particular dyads

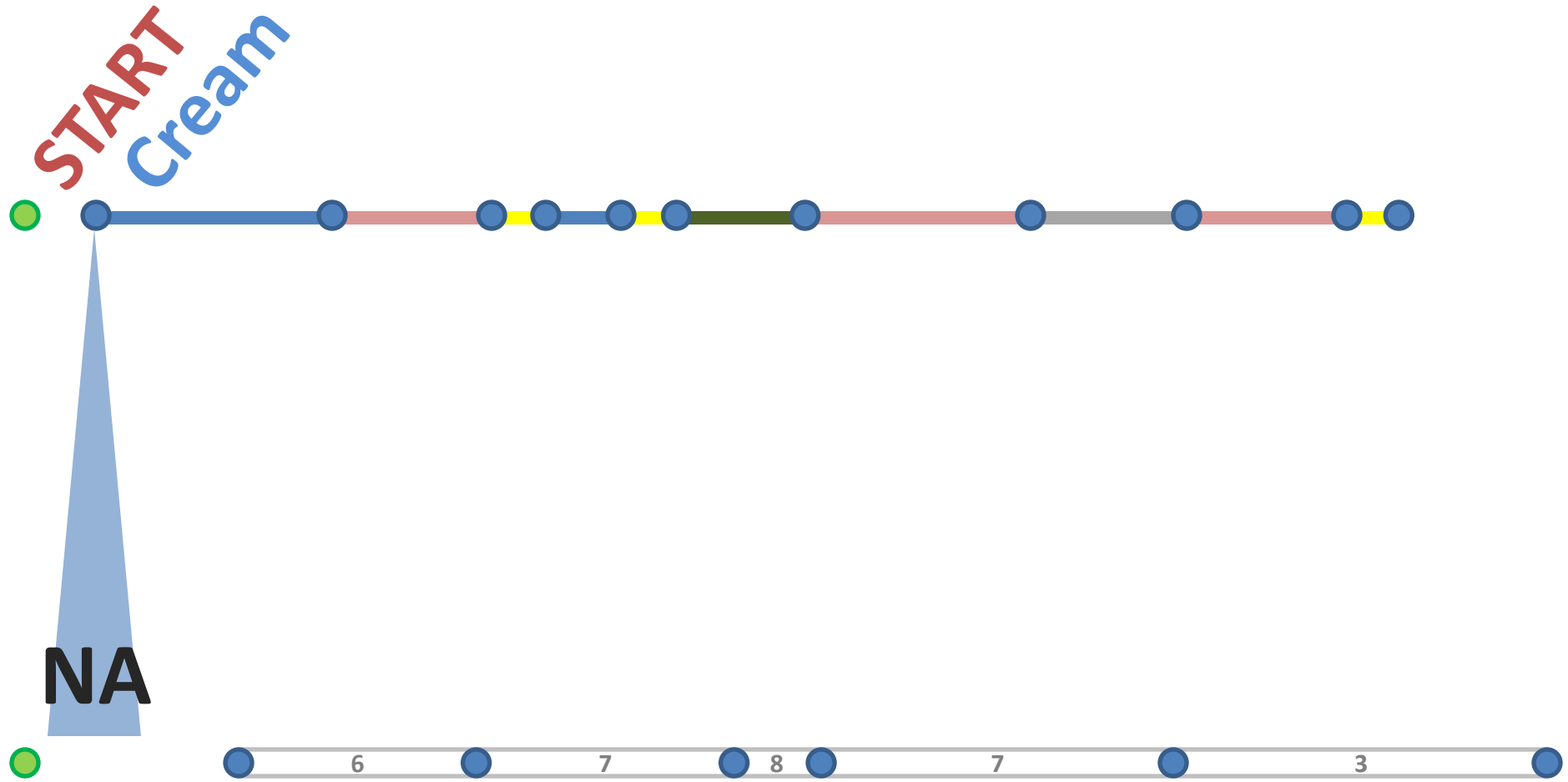
- Interpretation of dyads with low frequencies should be made with caution
- Average liking and preference
  - Higher for dyads with *Cream, Garlic, Salty, Fresh Herbs*
  - Lower for *Cooked herbs*, esp. if reiterated

# Dyad order

- Dyads (X, Y) vs. (Y, X)
  - Frequencies somewhat similar
  - Liking somewhat similar

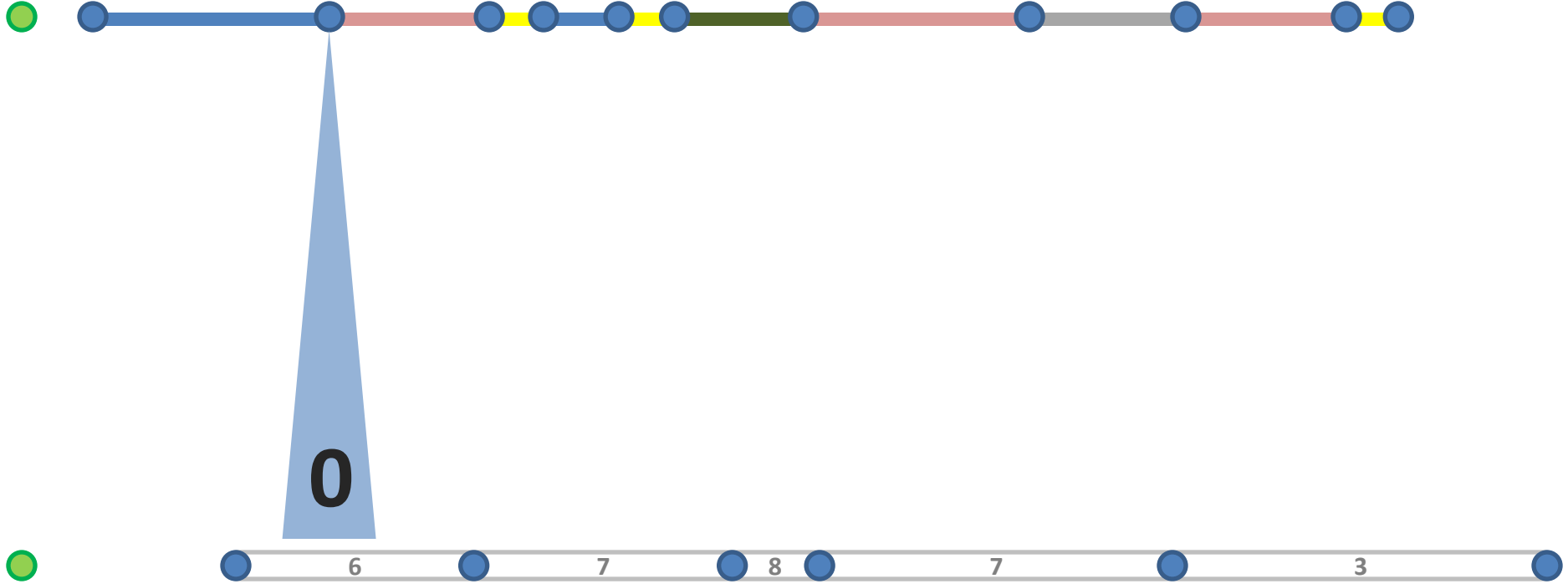
*The TDS task forces an assessor to indicate one dominant attribute even if 2 or more attributes noticed in parallel...*

# Liking change

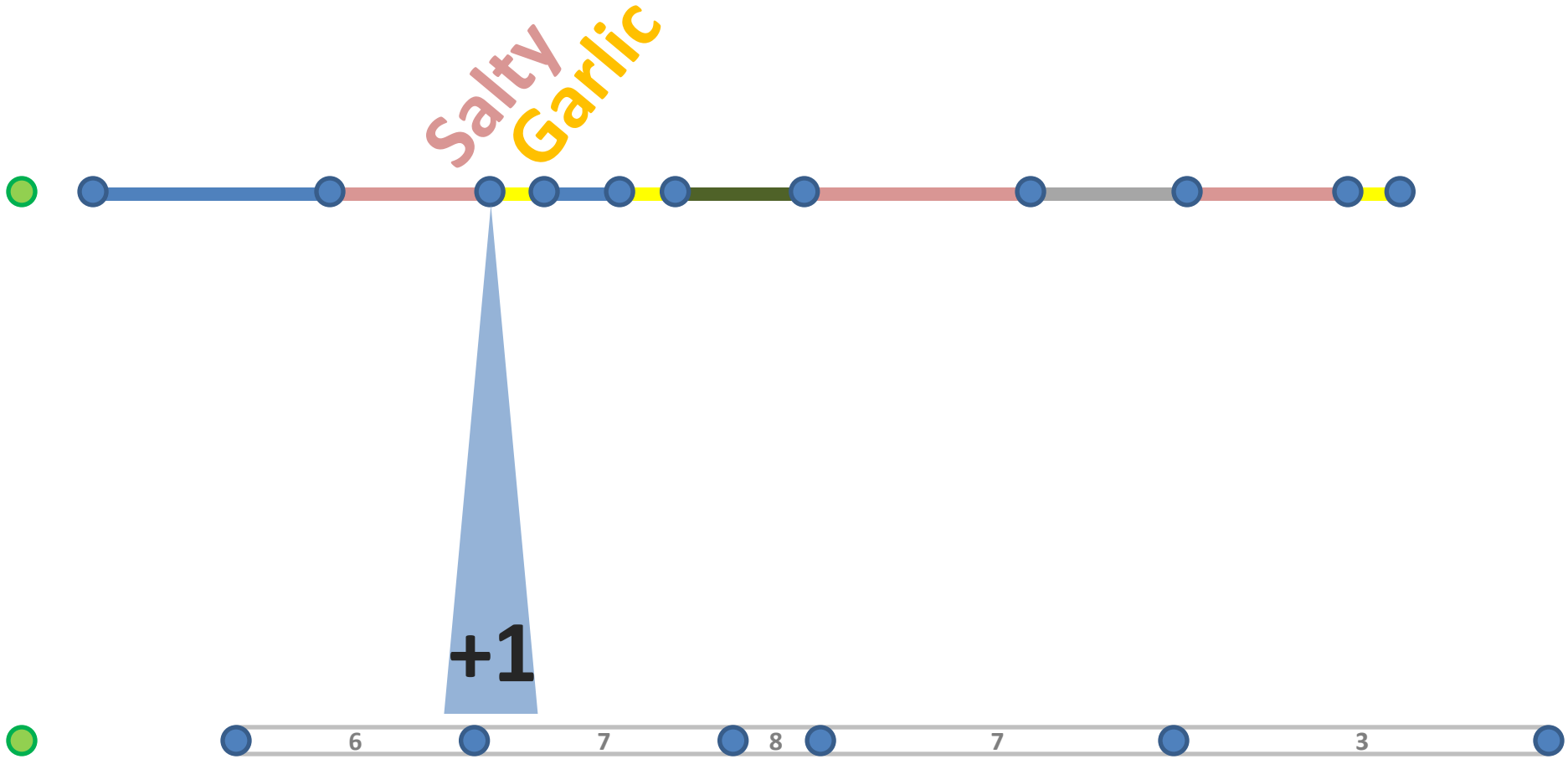


# Liking change

Cream  
Salty

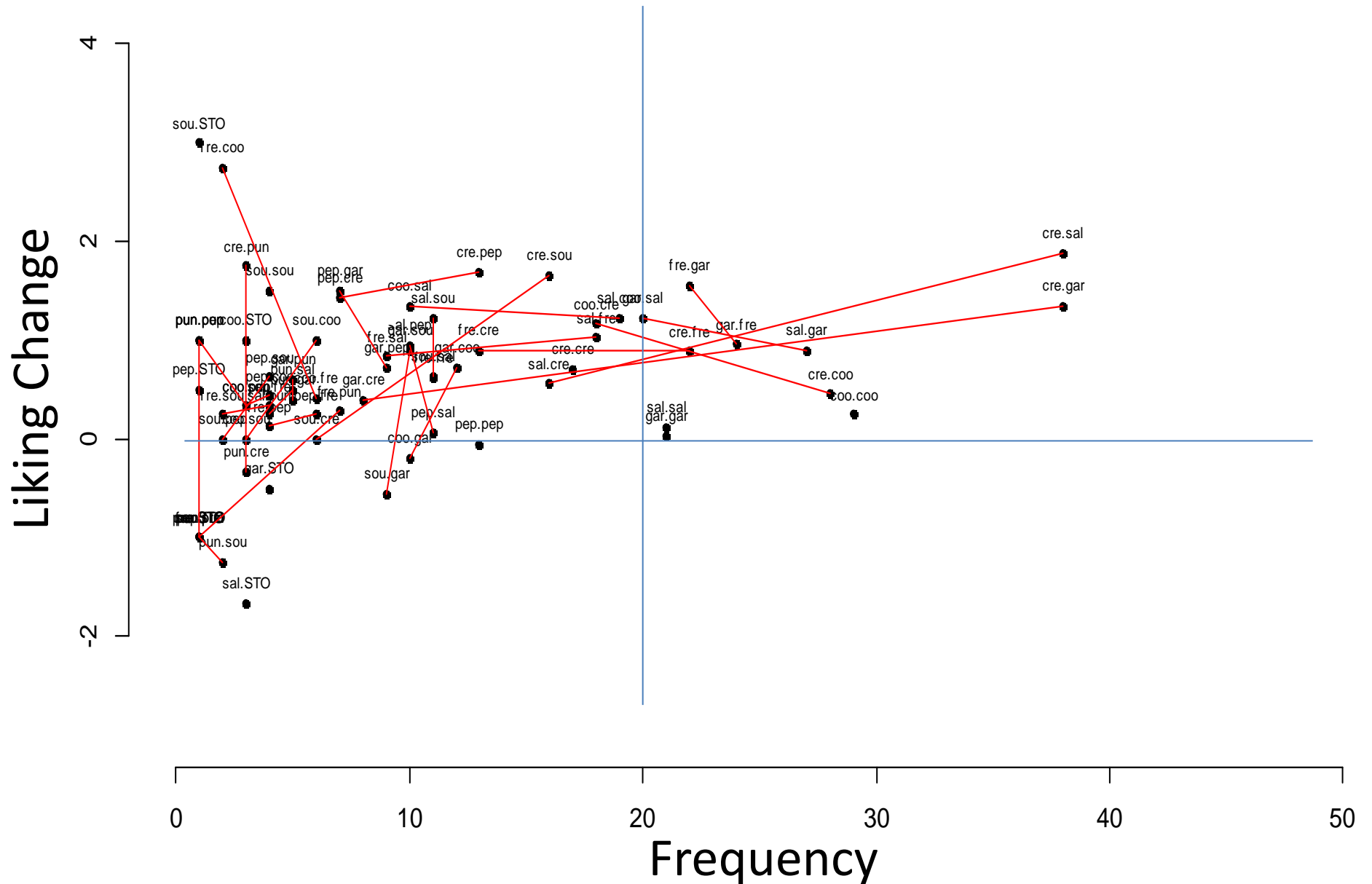


# Liking change

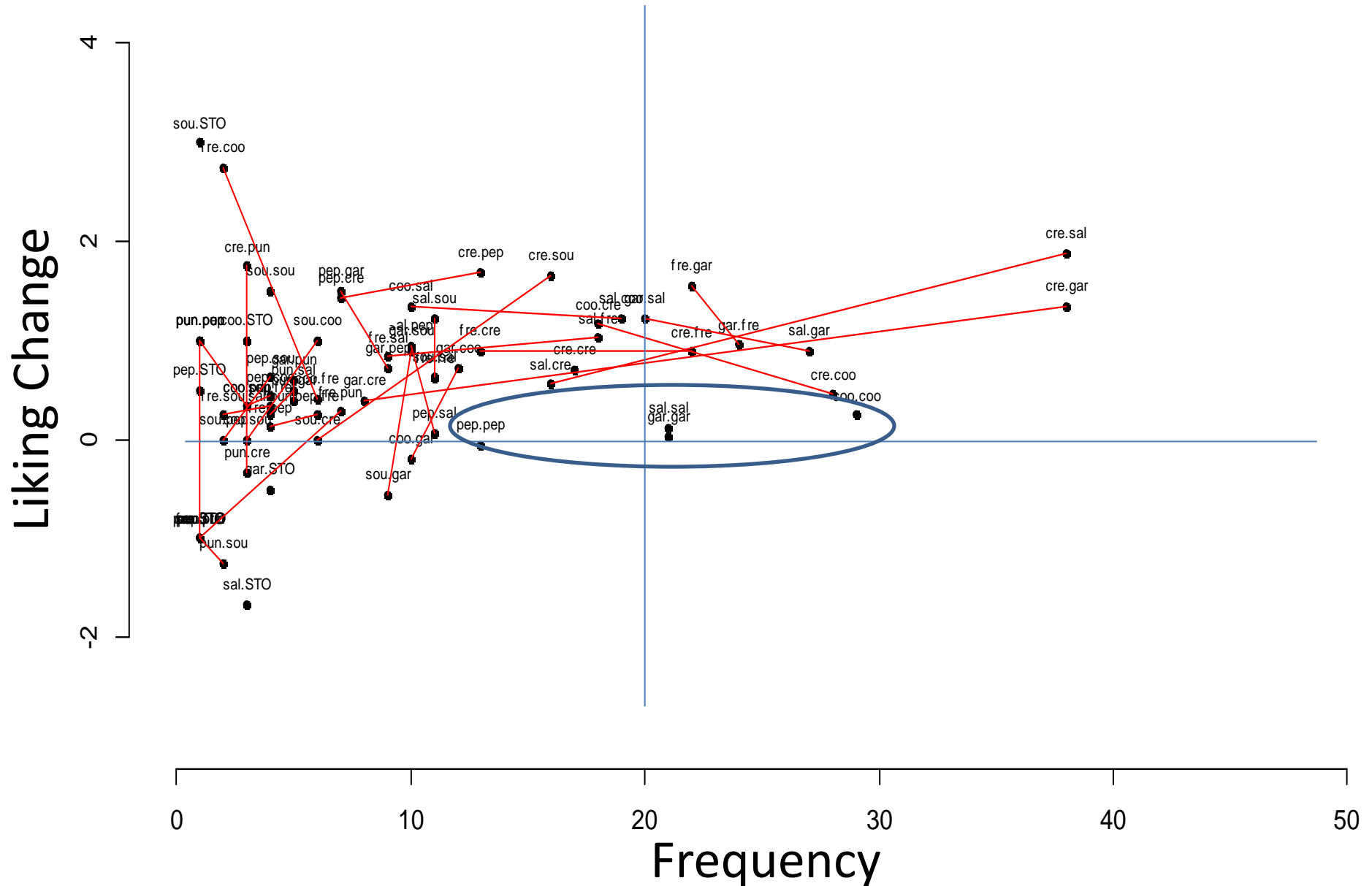




# TDS Dyads



# TDS Dyads



# Dyads associated with increased liking

- Esp. *Cream* > *Salt* and *Cream* > *Garlic*
- Liking tends to increase when dominance changes
  - Liking more flat when dominance reiterated
- More asymmetry in liking/citations for (X, Y) and (Y, X) dyads

*Thank you for your attention!*



**John C. Castura**  
Compusense Inc.



**Moyi Li**  
University of Guelph

