README: auction_emotions data

Erik Johnson

5/11/2018

Data

Data comes from experiments and is available in `~/Dropbox/pkg.data/auction_emotions/`. There are 8 sessions in the folder. Also include some other information here.

Work

This is the function used to aggregate the dutch auction results.

- Need to incorporate Cary's edits into this code. For now use the final data file (TickDataFull.csv)

Description

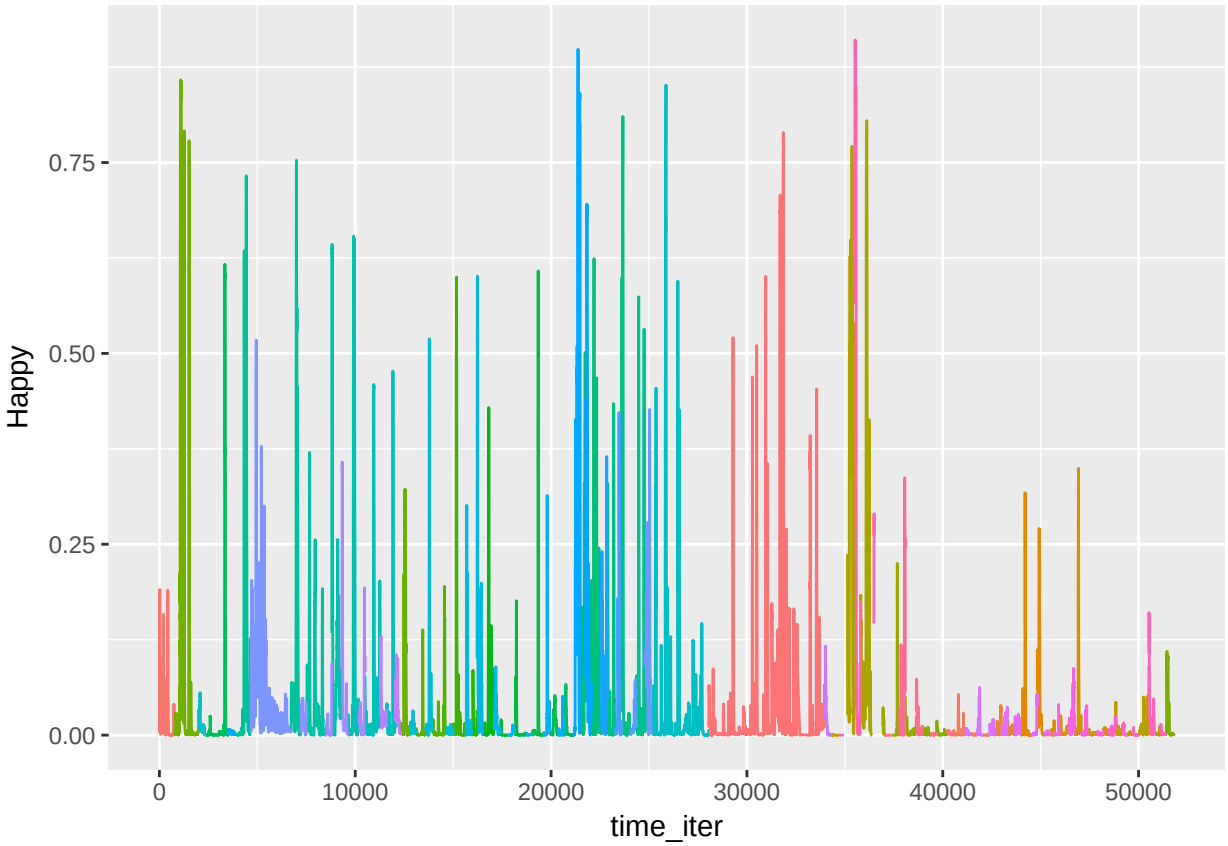
Column and data description from **TickDataFull.csv**

name	descrip	vals
V1	Not sure	NA
tick_id	clock tick id. starts at 1 and counts up	1,2,3,4,5,6,. . . ,81
time_floor	starting time for the tick	11.253,. . . ,2969.0548102
time_ceil	ending time for the tick	11.752,. . . ,2969.0871752
event	Not sure. How is this different than session?	NA,da1,da2,. . . ,da20,da21,da22
participant_id	Only unique within session. For full unique use subjects	NA, 1, 2,. . . ,22, 23, 24
esi_key	Related to session???	NA, ESI-115-01,. . . ,ESI-115-23, ESI-115-24
ClockPrice	Price during the tick (starts at 240)	0, 3, 6,. . . ,234, 237, 240
Ses_temps	Just like Ses_TickData but with NAs	NA, 1, 2,. . . ,6, 7, 8
Subjects	Not the same as participant. Unique to each subject	1, 2, 3,. . . ,170, 171, 172
DANum	Dutch Auction Number(event)	1, 2, 3,. . . ,23, 24, 25
Ses_TickData	?	1, 2, 3,. . . ,6, 7, 8
Group	4 players to a group (playing against)	1, 2, 3,. . . ,4, 5, 6
Win	1 if ended up winning, 0 otherwise	1,0
FinalPrice	Price where auction stopped	3, 24, 36,. . . ,225, 228, 231
Value	Value assigned to participant	0, 8, 16,. . . ,224, 232, 240
Diff	Value-ClockPrice	-240, -237, -234,. . . ,234, 237, 240
Neutral	Emotion Score	0, 0.001, 0.002,. . . ,0.997, 0.998, 0.999
Happy	Emotion Score	0, 0.001, 0.002,. . . ,0.996, 0.997, 0.998
Sad	Emotion Score	0, 0.001, 0.002,. . . ,0.998, 0.999, 1
Angry	Emotion Score	0, 0.001, 0.002,. . . ,0.998, 0.999, 1
Surprised	Emotion Score	0, 0.001, 0.002,. . . ,0.998, 0.999, 1
Scared	Emotion Score	0, 0.001, 0.002,. . . ,0.988, 0.993, 0.995
Disgusted	Emotion Score	0, 0.001, 0.002,. . . ,0.997, 0.998, 0.999
Contempt	Emotion Score	0, 0.001, 0.002,. . . ,0.954, 0.955, 0.957
Valence	Emotion Score	-1, -0.999, -0.998,. . . ,0.992, 0.993, 0.995
Arousal	Emotion Score	0, 0.001, 0.002,. . . ,0.894, 0.895, 0.916

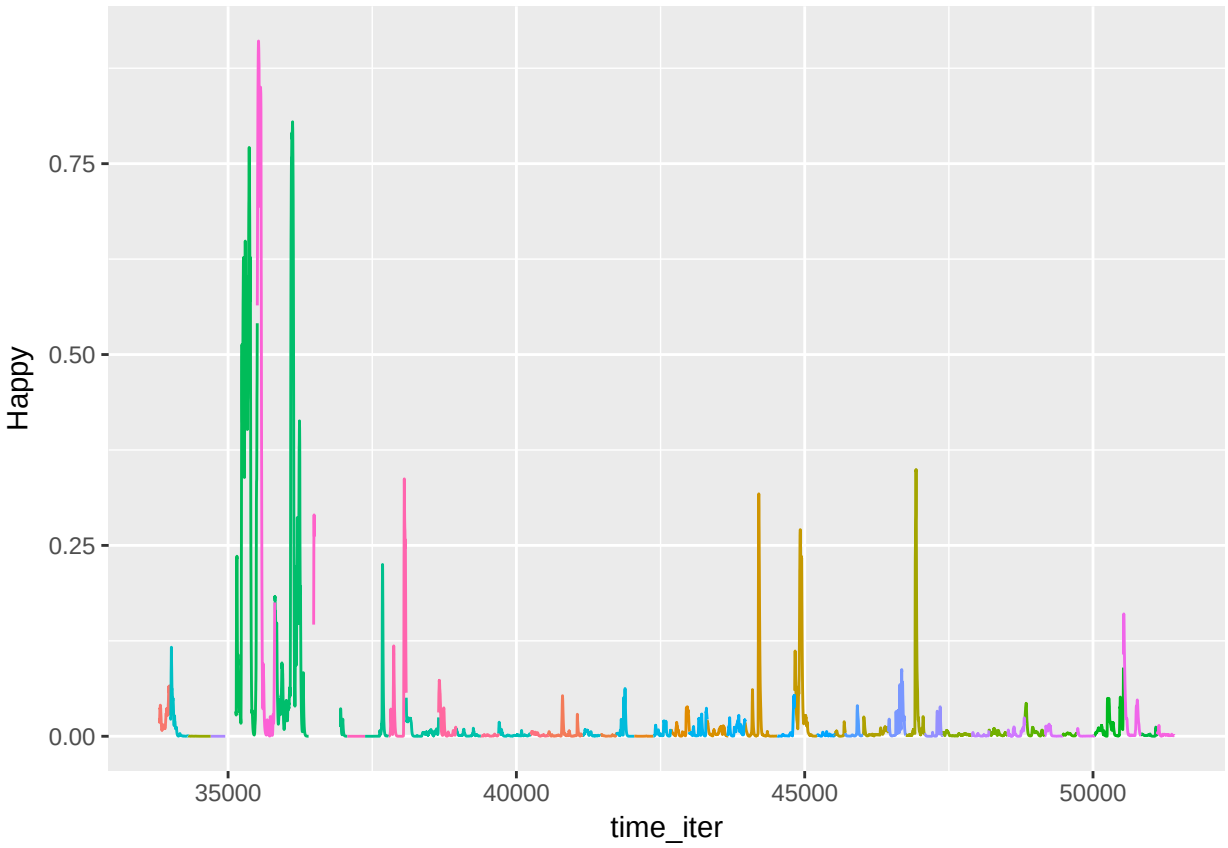
Analysis

Draw some cool pictures. Try this for one individual (from the raw/source data)

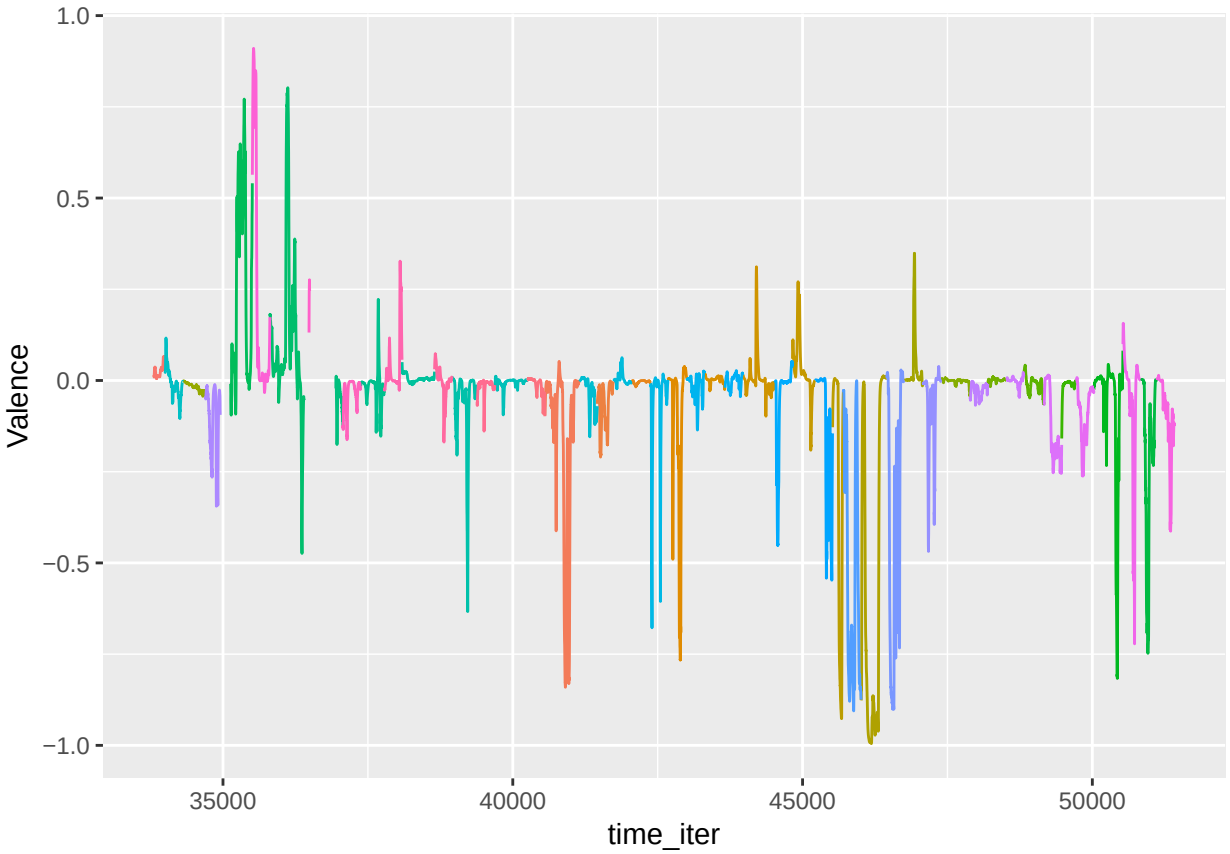
```
## Saving 6.5 x 4.5 in image
```




```
## Saving 6.5 x 4.5 in image
```




```
## Saving 6.5 x 4.5 in image
```



Questions

What is the unique key for a session?

This is defined by the session/group pair.

The session and participant id are for unique individuals.

The group membership for an individual will change within the session (to stop cartel behavior).

Plot out raw data for an individual over all sessions (include initial value, and win/loss, etc.)

Started working on this in the One Individual Section

What is the actual research question? Do we know? What should we explore?

1. Initial value assignment

Because subjects observe their value for the first time at the start of the auction, can we grab the average emotion for the first second of each auction to analyze how emotions are impacted by value realization. Any reaction would be somewhat visible in the timepath plots we discussed previously.

2. Emotional triggers for ending auction
3. Fatigue/Emotional trends through repeated auctions
4. Emotional responses to losing/winning auction

Can we grab the average emotion over the time between auctions, which is when people see the results. What we are thinking about here is if emotional reaction to the previous auction impacts bidding in the next auction.

5. Indvidiual heterogeneity in response
6. How are scores done? Is it intensity
7. Some go da then fp.
8. Valence

The difference between highest happiness and lowest emotional state (max of good ones - max of bad ones)

9. *Can we use emotion to explain bid amount?*
10. Pull the trigger (why)
11. Do emotions spillover? (Maybe add this into the analysis in 12.)
12. Subjects learn value at start of auction. Does this affect emotional response (value realization affect).

Differences between dutch auctions and fp Auctions

13. Is there a difference in emotions between first price and dutch auctions (spillover effect.. does happiness differ between first price and dutch auctions)
14. Expect emotions to be changing more in a dutch auction more than first price auction. Emotions more extreme in dutch auctions, less in first price auctions. Expect to see.
15. Plot the same things for arousal (measure of intensity)

Event Marker

finalPayment separates da and fp auction

No Event Marker only time between instructions

infoda1 Results of da1

Values

Values data not in the emotions file

TODO Plots

Value, profit,

Focus on valence and arousal, both dutch and fp (4 total figures)

Two colors, portion of actual auction in one color, feedback in another

Dutch Auction: Magnitude of the win (if win, dot at end of segment that is solid if win open if loss, size for (Price) value-final price at end time (if negative red if positive black))

FP Auction: Value-Bid (same colors as before)

x-axis (should be start of auction start)

Auction line blue (lettering from grey poupon), info (Grey Popon) dijon mustard color.

Value line is green value normalized between 0 and 1

Final Price : normalized to 0 and 1, black

Create summary statistics for timepath options