**CAUTION READ ME FIRST**

Before working with this data, be informed that Eugene and I scored this dataset twice – I scored it once counting procorpus pumps, spits, and feeding pumps. He went back and then later scored it for grinder pumps. Thus, there are TWO DIFFERENT “data\_” files. Make sure you use the right ones!

After running customBatchBehavior on nEx19p3\_arrayMinus\_grinderPumps data (I already did the arrayPlus condition).

1.a) **behavior:**

behavior\_nEx2905\_arrayMinus\_20181203\_grinderPumps=[

nEx19p3\_arrayMinus\_01\_20181203\_grinderPumps,

nEx19p3\_arrayMinus\_02\_20181203\_grinderPumps,

nEx19p3\_arrayMinus\_03\_20181203\_grinderPumps,

nEx19p3\_arrayMinus\_04\_20181203\_grinderPumps,

nEx19p3\_arrayMinus\_05\_20181203\_grinderPumps]

1.b)

behavior\_nEx2905\_arrayMinus\_20181204\_grinderPumps=[

nEx19p3\_arrayMinus\_01\_20181204\_grinderPumps,

nEx19p3\_arrayMinus\_02\_20181204\_grinderPumps,

nEx19p3\_arrayMinus\_03\_20181204\_grinderPumps,

nEx19p3\_arrayMinus\_04\_20181204\_grinderPumps,

nEx19p3\_arrayMinus\_05\_20181204\_grinderPumps]

1.c)

behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps=[

behavior\_nEx2905\_arrayMinus\_20181203\_grinderPumps,

behavior\_nEx2905\_arrayMinus\_20181204\_grinderPumps]

1.d)

missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps=[

missingCompiled\_nEx2905\_arrayMinus\_20181203\_grinderPumps,

missingCompiled\_nEx2905\_arrayMinus\_20181204\_grinderPumps]

*Saved above as* ***data\_nEx2905\_arrayMinus\_toDate\_grinderPumps****:*

Plotting graphs:

1. To plot overall grinder rate against spitting rate for the array minus animals:

plotMsDataFromVideo('Array Minus, grinder pumps v spits',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayMinus\_toDate(3,:),missingCompiled\_nEx19p3\_arrayMinus\_toDate,0,30,1,0,0)

*saved as* ***PLOT\_nEx2905\_arrayMinus\_toDate\_grinder\_v\_spits***

Annoyingly, because we scored the grinder pumps and spits in different sessions (I forgot to count the grinder when I did spits), the spitting rate is higher than the grinder pumping rate in this graph.

1. Plot overall grinder rate against spits in arrayPlus animals:

plotMsDataFromVideo('Array Plus, M1 minus, grinder pumps v spits',behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayPlus\_M1minus\_toDate (3,:),missingCompiled\_nEx19p3\_arrayPlus\_M1minus\_toDate,0,30,1,0,0)

*saved as* ***PLOT\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinder\_v\_spits***

1. Plot overall grinder rate against procorpus in arrayMinus animals:

plotMsDataFromVideo('Array Minus, grinder pumps v spits',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayMinus\_toDate (1,:),missingCompiled\_nEx19p3\_arrayMinus\_toDate,0,30,1,0,0)

1. Plot overall grinder rate against procorpus in arrayPlus animals:

plotMsDataFromVideo('Array Plus, M1 minus, grinder pumps v spits',behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayPlus\_M1minus\_toDate (1,:),missingCompiled\_nEx19p3\_arrayPlus\_M1minus\_toDate,0,30,1,0,0)

1. Plot overall grinder rate of array minus animals against the overall grinder rate of arrayPlus animals:

plotMsDataFromVideo('Grinder pumps arrayPlus v arrayMinus',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,0,30,1,0,0)

1. array minus: pumps v spits

plotMsDataFromVideo('Array Minus, grinder pumps v spits',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayMinus\_toDate(3,:),missingCompiled\_nEx19p3\_arrayMinus\_toDate,0,30,1,0,1)

now array positive, pumps v spits:

plotMsDataFromVideo('Array Plus, M1 minus, grinder pumps v spits',behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayPlus\_M1minus\_toDate (3,:),missingCompiled\_nEx19p3\_arrayPlus\_M1minus\_toDate,0,30,1,0,1)

Now arrayMinus v arrayPlus, comparing grinder rates:

plotMsDataFromVideo('Grinder pumps arrayPlus v arrayMinus',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,0,30,1,0,1)

Now plot procorpus against grinder in arrayPlus animals:

plotMsDataFromVideo('Array Plus, M1 minus, grinder pumps v spits',behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayPlus\_M1minus\_toDate (1,:),missingCompiled\_nEx19p3\_arrayPlus\_M1minus\_toDate,0,30,1,0,1)

Making plots for thesis figure 2.1:

I’m making the plots again using the newest for-publication version of the graphs, just copying the code from above.

1. To plot overall grinder rate against spitting rate for the array minus animals:

plotMsDataFromVideoSpits('Array Minus, grinder pumps v spits',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayMinus\_toDate(3,:),missingCompiled\_nEx19p3\_arrayMinus\_toDate,0,30,1,0,1)

*saved as* ***PLOTpub\_nEx2905\_arrayMinus\_toDate\_grinder\_v\_spits***

1. Plot overall grinder rate against spits in arrayPlus animals:

plotMsDataFromVideoSpits('Array Plus, M1 minus, grinder pumps v spits',behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayPlus\_M1minus\_toDate (3,:),missingCompiled\_nEx19p3\_arrayPlus\_M1minus\_toDate,0,30,1,0,1)

*saved as* ***PLOTpub\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinder\_v\_spits***

1. Plot overall grinder rate of array minus animals against the overall grinder rate of arrayPlus animals:

plotMsDataFromVideoSpits('Grinder pumps arrayPlus v arrayMinus',behavior\_nEx2905\_arrayMinus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayMinus\_toDate\_grinderPumps,behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,0,30,1,0,1)

*Save as* ***PLOTpub\_grinderPumps\_arrayMinus\_v\_arrayPlus***

1. Plot overall grinder rate against procorpus in arrayPlus animals:

plotMsDataFromVideo('Array Plus, M1 minus, grinder pumps v spits',behavior\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,missingCompiled\_nEx2905\_arrayPlus\_M1minus\_toDate\_grinderPumps,behavior\_nEx19p3\_arrayPlus\_M1minus\_toDate (1,:),missingCompiled\_nEx19p3\_arrayPlus\_M1minus\_toDate,0,30,1,0,0)

save as: **PLOTpub\_arrayPlus\_grinder\_v\_procorpus**